



JSS COLLEGE OF PHYSIOTHERAPY

MYSORE

THIRD YEAR BPT

LESSON PLAN 2020-2021

How to use this manual

The purpose of this Lesson Plan is to guide the students on resources that are recommended to master the syllabus of each subject. This document consists of the detailed topic wise plan, along with the Time table, Assignment list for the entire year, recommended books, Sample questions and Practical manual. Each subject syllabus is divided into modules and each module is divided into units. Every unit is provided with prescribed book, reference books and supplementary material. It is intended to help the students to refer the appropriate book. Students are directed to go through the supplementary material wherever it is required in the form of videos or web links.

Each subject lesson plan is followed by sample questions; it helps students to understand the format of questions in university examinations.

SCOPE OF BPT GRADUATES

A graduate physiotherapist is qualified to work as an

- Autonomous practice in an interdisciplinary team in hospital, rehabilitation centers, rehab project undertaken by Govt. and NGOs.
- Autonomous reflective practitioner in a variety of practice settings like private practice, rural health, sports and fitness centres, special schools , Govt. projects, NGOs, corporate health center.

BPT COURSE OBJECTIVE

At the end of the course a physiotherapy graduate will be able to-

- Apply knowledge learned in basic science and clinical science to arrive at a PT diagnosis and reasoning based treatment decision.
- Use appropriate methods of evaluation to assess the patient/client and to identify PT needs and set SMART goals.
- Identify situation and comply with the referral with other professionals when needed.
- Apply principles of management for appropriate treatment and management of the patient in timely and effective manner.
- Communicate health information adequately and appropriately to the patient, other health care professionals and the public.
- Employ and use research to practice with the current recommendation in an ethical and an effective manner with patient preference and available resources

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OVERVIEW OF THE SYLLABUS

Third Year BPT [Duration 12 (25 -36) months]						
Sl. No	Subject	Teaching Hours				
		Weekly Class hours	Total	Theory	Practical	Clinics
Main Subjects: For university Examination						
1	General Medicine	2	60	60	-	-
2	General Surgery	2	60	60	-	-
3	Orthopedics & Traumatology	2	60	60	-	-
4	Orthopedics and Sports Physiotherapy	5	150	90	60	-
5	Cardio – Respiratory & General Physiotherapy	5	150	90	60	-
Subsidiary Subjects: Not for university Examination						
6	Supervised Rotatory Clinical Training	18	540	-	-	540
7	Allied Therapies	2	60	60	-	-
Total		36	1080	420	120	540

EXAMINATION SCHEME

BPT – III

Sl. No	Subject	Written		Viva – Voce	Internal Assessment	Practical	Internal Assessment	Total
		Time	Maximum Marks	Maximum Marks	Maximum Marks	Maximum Marks	Maximum Marks	Maximum Marks
1	General Medicine	3 Hrs	80	-	20	-	-	100
2	General Surgery	3 Hrs	80	-	20	-	-	100
3	Orthopedics & Traumatology	3 Hrs	80	-	20	-	-	100
4	Orthopedics and Sports Physiotherapy	3 Hrs	100	30	20	40	10	200
5	Cardio – Respiratory & General Physiotherapy	3 Hrs	100	30	20	40	10	200

Subjects and Staff Distribution

SL NO	SUBJECT	ORGANIZATION	STAFF	THEORY HOURS	PRACTICALS	TOTAL
1.	General Medicine	JSS MC	Medicine Department	60	-	60
2.	General Surgery	JSSMC	CTVS , JSSH	60	-	60
3.	Ortho and Trauma	JSSMC /JSSCPT	Orthopedic Department	60	-	60
4.	Ortho and sports PT 150 (90 T + 60 P) Cardio Respiratory and 150 (90 T + 60 P)	JSSCPT	Staff	35	25	60
			Physiotherapy Faculty(Musculoskeletal and Sports & Basic science)			
			Staff	35	25	60
			Physiotherapy Faculty- Cardio and Pulmonary			
6.	Allied Therapies	Occupational Therapy / Ayurveda / Speech Therapy	JSSCoSH, OT dept, JSSAMC	60	-	-

GENERAL INSTRUCTIONS TO STUDENTS

All assignments must follow the following format:

- Title should be underlined and written in capitals
- Name of the student
- Introduction
- Body
- Summary
- Take home message
- References in Vancouver referencing style

Seminars:

- Seminars must be in PowerPoint format

Must have the following slides

- Title of topic with name of presenters
- Objective or aim of the presentation
- Body of presentation
- Summary and references
- Ending slide should contain thank you
- Video or pictures where necessary
- Font of all the main heading should be Arial, times new roman or Calibri – font size 38
- Text should be font size 32; font style should be uniform throughout, bold or italicised important points
- Background must be professional, avoid too much animation

Avoid **PLAGIARISM** in all assignment and seminars

SELF-STUDY:

- Be present in library at the appointed class time.
- Give attendance to librarian.
- Read the allotted topic from multiple references book and digital sources (ask your subject supervisor).
- Use library resources including e-resources effectively
- utilize PPT bank for your reference
- Students must have read the required pages listed in lesson plan prior to the class.
- They must come appropriately dressed and with necessary books/ material/ instruments to practical classes
- During clinical rotations, students are expected to follow the dress code with ID cards and must have all necessary items with them.

Usage of mobile phones in clinics is strictly prohibited.

**MUSCULOSKELETAL AND SPORTS
PHYSIOTHERAPY
DETAILED LESSON PLAN**

OBJECTIVES OF THE SUBJECT

At the end of 3rd year BPT the students will be able to incorporate knowledge gained in basic sciences in conjunction with foundation courses to- Perform and interpret specific clinical examination and apply findings to plan management of post fracture and trauma rehab, sports injuries, deformities, bone diseases and elective orthopedic surgeries, spinal pain and amputation. Identify disabilities due to musculoskeletal dysfunction, plan and set treatment goals and apply the skills→ gained in exercise therapy and electrotherapy in these clinical situations to restore musculoskeletal function.

<p style="text-align: center;">RGUHS PRESCRIBED SYLLABUS</p> <p style="text-align: center;">MUSCULOSKELETAL & SPORTS PHYSIOTHERAPY</p> <p style="text-align: center;">2015</p>

Subject Description

The subject serves to integrate the knowledge gained by the students in orthopedics and Traumatology with skills to apply these in clinical situations of dysfunction and musculoskeletal pathology. The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to identify disabilities due to musculoskeletal dysfunction, plan and set treatment goals and apply the skills gained in exercise therapy and electrotherapy in these clinical situations to restore musculoskeletal function.

1. PT assessment for Orthopedic conditions –
SOAP format- Subjective - history taking, informed consent, personal, past, medical and socioeconomic history, chief complaints, history of present illness.
Pain assessment- intensity, character, aggravating and relieving factors, site and location.
Objective- on observation - body built swelling, muscle atrophy, deformities, posture and gait.
On palpation- tenderness-grades, muscle spasm, swelling-methods of swelling assessment, bony prominences, soft tissue texture and integrity, warmth and vasomotor disturbances.
On examination – ROM – active and passive, resisted isometric tests, limb length-apparent, true and segmental , girth measurement, muscle length testing-tightness, contracture and flexibility, manual muscle testing, peripheral neurological examination- dermatomes, myotomes and reflexes, special tests and functional tests.
Prescription of home program. Documentation of case records, and follows up. **[5 Hours]**
2. Fractures - PT management in complications - early and late - shock, compartment syndrome, VIC, fat embolism, delayed and mal union, RSD, myositis ossificans, AVN, pressure sores etc. Physiotherapy assessment in fracture cases.
Aims of PT management in fracture cases - short and long term goals. Principles of PT management in fractures - Guidelines for fracture treatment during period of immobilization and guidelines for treatment after immobilization period. **[9 Hours]**
3. Specific fractures and dislocations: PT assessment and management of upper limb fractures and dislocations. PT assessment and management of lower limb fractures and dislocation Including pelvis. PT assessment and management spinal fractures. **[6 Hours]**

4. Selection and application of physiotherapeutic techniques, maneuver's, modalities for preventive, curative and rehabilitative means in all conditions. **[2 Hours]**
5. Principles of various schools of thought in manual therapy. (Briefly Maitland and Mc kenzie). **[3 Hours]**
6. Degenerative and Inflammatory conditions: PT assessment and management and home program for the following conditions – Osteoarthritis - emphasis mainly on knee, hip and hand, Rheumatoid Arthritis, Ankylosing spondylitis, Gout, Perthes disease, Peri arthritic shoulder. **[3 Hours]**
7. Infective conditions: PT assessment and management for following conditions – Osteomyelitis – acute and chronic, Septic arthritis, pyogenic arthritis, TB spine and major joints - knee and hip. **[2 Hours]**
8. Define; review the postural abnormalities of spinal column, clinical features, and deformities, medical and surgical management. Describe PT assessment and management and home program. **[3 Hours]**
9. Deformities: Review in detail the causes, signs and symptoms, radiological features, medical and surgical management. Describe the PT. assessment and management of the following conditions: Congenital: CTEV, CDH, Torticollis, pes planus, pes cavus and other common deformities. Acquired: scoliosis, kyphosis, coxa vara, genu varum, valgum and recurvatum. **[3 Hours]**
10. Cerebral palsy: Common orthopedic deformities, clinical features, complications, conservative and surgical management and home program with special emphasis on carrying techniques. PT management after surgical corrections. **[2 Hours]**
11. Poliomyelitis: Common deformities, conservative and surgical management. PT. assessment and management after surgical corrections and reconstructive surgeries - emphasis on tendon transfer and home program. **[2 Hours]**
12. Leprosy: PT assessment, aims, and PT management after surgical procedures such as tendon transfer both pre and post operatively. **[2 Hours]**
13. Amputations: Definition, levels, indications, types, PT assessment, aims, management pre and post operatively. PT management with emphasis on stump care and bandaging. Pre and post prosthetic training, checking out prosthesis, complications of amputations and its management. **[3 Hours]**
14. Spinal conditions: Review the causes, signs and symptoms, investigations, radiological features, neurological signs. PT assessment, aims, and management and home program of the following conditions: Cervical spondylosis, Lumbar spondylosis, Spondylolisthesis, Spinal canal stenosis, Spondylolysis, Sacro-iliac joint dysfunction, Sacralisation, Lumbarisation, Intervertebral disc prolapse, Coccydynia, Spina bifida occulta. **[5 Hours]**
15. Effects of spinal traction, types of traction, modes of application, indications for spinal traction, contraindications, precautions, limitations of traction. **[2 Hours]**

16. Osteoporosis- causes, predisposing factors, investigations and PT treatment. [**1 Hour**]
17. Orthopedic surgeries: Pre and post operative PT assessment, goals, precautions and PT management of following surgeries such as : Arthrodesis, Osteotomy, Arthroplasty-partial and total - Excision Arthroplasty, excision Arthroplasty with implant, interpositional Arthroplasty and total replacement; Tendon transplant, Soft tissue release- tenotomy, myotomy, lengthening; Arthroscopy, Spinal stabilization, Re-attachment of limbs, External fixators, Synovectomy. [**4 Hours**]
18. Shoulder joint: Shoulder instabilities, TOS, RSD, Impingement syndrome - conservative and Post operative PT management. Total shoulder replacement and Hemi replacement. - Post operative PT management. AC joint injuries - rehabilitation. Rotator cuff tears- conservative and surgical repair. Subacromial decompression - Post operative PT management. [**3 Hours**]
19. Elbow and forearm: Excision of radial head - Post operative PT management. Total elbow Arthroplasty- Post operative PT management. [**2 Hours**]
20. Wrist and Hand: Total wrist Arthroplasty. Repair of ruptured extensor tendons. Carpal tunnel syndrome. Flexor and extensor tendon lacerations - Post operative PT management.[**3 Hours**]
21. Hip: Joint surgeries - hemi and total hip replacement - Post operative PT management Tendonitis and bursitis. - Management. [**2 Hours**]
22. Knee: Lateral retinacular release, chondroplasty- Post operative management. Realignment of extensor mechanism. ACL and PCL reconstruction surgeries - Post operative rehabilitation. Meniscectomy and meniscal repair - Post operative management. Plica syndrome, patellar dysfunction and Hoffa's syndrome- conservative management. TKR- rehabilitation protocol. Patellar tendon ruptures and Patellectomy- rehabilitation. [**5 Hours**]
23. Ankle and foot: Ankle instability. Ligamentous tears- Post operative management. [**1 Hour**]
24. Introduction to Bio-Engineering; Classification of Orthoses and prostheses; Biomechanical principles of orthotic and prosthetic application; Designing of upper extremity, lower extremity and spinal orthosis, indications and check out; Designing of upper extremity and lower extremity prostheses, indications and check out; Psychological aspects of orthotic and prosthetic application; prescription and designing of footwear and modifications; Designing and construction of adaptive devises. [**9 Hours**]
25. Sports Physiotherapy: Physical fitness. Stages of soft tissue healing. Treatment guidelines for soft tissue injuries- Acute, Sub acute and chronic stages. Repair of soft tissues- rupture of muscle, tendon and Ligamentous tears. Soft tissue injuries- prevention and rehabilitation of, Lateral ligament sprain of ankle. Rotator cuff injuries. Collateral and Cruciate injuries of knee. Meniscal injuries of knee. Supraspinatus and Bicipital tendonitis . Pre patellar and Subacromial bursitis. Tennis and Golfer's elbow. Hamstring strains, Quadriceps contusion, TA rupture. Dequervain's tenosynovitis. Trigger and Mallet finger. Plantar fasciitis. Wrist sprains. [**5 Hours**]
26. Applied Yoga in orthopedic conditions [**3 Hours**]

Practical: **60 Hours**

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

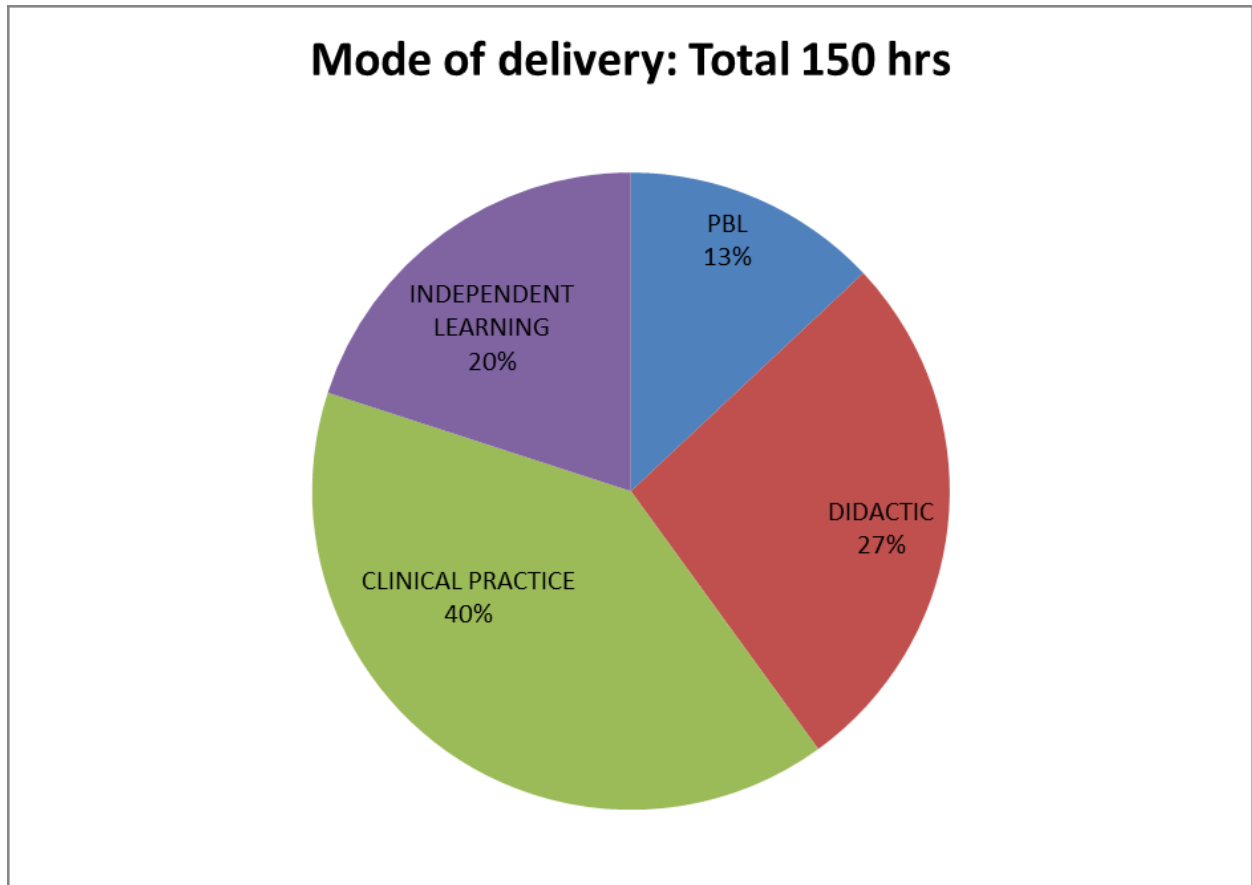
1. Bedside case presentations and case discussions
2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

Recommended books:

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

ORGANISATION OF CURRICULUM

MODULE	TOPIC	Page no.
I.	Introduction to Orthopedics and Pain	14- 18
II.	Basic of fracture and Orthopedic surgeries Introduction to Degeneration, Inflammation and Infective Conditions.	19- 26
III.	Shoulder, Elbow, Forearm, wrist and hand complex	27-37
IV.	Hip, Knee, Ankle and Foot complex	38-46
V.	Spine	47-50
VI.	Fitness and Manual Therapy	51-53
VII.	Congenital Deformity	54-55
VIII.	Miscellaneous	57-61



Mode of Assessment

1. Didactic: Written exams, quiz, IA exams, MCQ'S
2. Directed independent learning: Assignments, Self study
3. Practical and patient care: IA Practical exam, Practical manual completion, SCALB, case presentations
4. PBL: seminars, case scenario

MODULE OBJECTIVES

MODULE	Learning objectives: At the end of the module the student is expected to
I	Identify the general role of the physiotherapist in MSK rehabilitation Perform physiotherapy assessment with clinical reasoning. Students will be able to read and correlate investigations and radiological findings. Will be able to clinically correlate the concept of chronic pain management.
II	Describe the mechanism of inflammation and healing following injury. Will classify the types of fracture healing, complications, and its effect on rehabilitation. Will be able to differentiate between open and closed reduction with emphasis on immobilizers. Students will list the different types of orthopedic surgeries and discuss the role of physiotherapy in specific surgeries. Will be able to explain the role of PT in all degenerative, infective inflammatory conditions.
III	Describe the biomechanical principles and applied anatomy of the upper limb. Will be able to differentiate between pathologies of the upper limb and perform assessment and diagnostic tests and apply management skills for various musculoskeletal conditions in the upper limb.
IV	Describe the biomechanical principles and applied anatomy of the lower limb. Will be able to differentiate between pathologies of the lower limb and perform assessment and diagnostic tests and apply management skills for various musculoskeletal conditions in the lower limb.
V	Describe the biomechanical principles and applied anatomy of the vertebral column. Will be able to differentiate between pathologies of spine and perform assessment and diagnostic test and management for various musculoskeletal conditions in spine.
VI	List and describe the role of physiotherapy to promote physical fitness and implement the concept of manual therapy in treating musculoskeletal conditions.
VII	Will able to articulate the biomechanical basis of deformity occurrence and orthopedic management. Will be able to apply guidelines of physiotherapy management strategies in an adjunctive capacity after orthopedic management of deformities
VIII	Apply principles of orthopedics, anatomy, physiology and functional biomechanics to appropriately plan and implement management strategies for rehabilitation of permanent Neuro musculoskeletal dysfunction including minimization of secondary disabilities

LIST OF ORTHOPAEDICS BOOKS IN JSSCPT LIBRARY

Sl.No	Title	Author	Edition& year	Type of book Print/ e
1.	Apley's system of orthopedics and fractures	Louis Solomon	9 th	Physical –Library
2.	Clinical Orthopedic physical therapy	Richardson & Iglarsh	-	Physical –Library
3.	Clinical Orthopedics Rehabilitation	Brotzman	2 nd	Physical –Library
4.	Management of common MSK disorders	Hertling and Kessler	3 rd	Physical –Library
5.	Physical rehabilitation	Susan O Sullivan	5 th	Physical –Library
6.	Clinical sports medicine	Peter Brukner & Karim khan	3 rd	Physical –Library
7.	Physical therapy for Shoulder	R Donatelli	3 rd	Physical –Library
8.	Therapeutic exercises for musculo skeletal Injuries	Peggy A Houghlun	2 nd	Physical –Library
9.	Orthopedic Physical assessment	David J Magee	5 th	Physical –Library
10.	Pathology and intervention in MSK Rehab	David J Magee	-	Physical –Library
11.	Tidy's Physiotherapy	Ann Thomson	12 th	Physical –Library
12.	Radiology and Imaging for students and practitioners	L C Gupta	-	Physical –Library
13.	Outline of orthopedics	Adams and Hamblen	-	Physical –Library
14.	The elements of fracture Fixation	Anand J Thakur	2 nd	Physical –Library
15.	Fractures and Joint Injuries	Watson and Jones	6 th	Physical –Library
16.	Physical rehabilitation of the injured athlete	Andrews and Wilk	3 rd	Physical –Library
17.	Brunnstorms clinical kinesiology	Peggy and Houghlum	6 th	Physical –Library
18.	Hand book of physical medicine and rehabilitation	Randall L Braddom	-	Physical –Library
19.	Physical Therapy	Rosemary M Scully	-	Physical –Library
20.	Treatment and rehab of Fractures	Hoppenfield	-	Physical –Library
21.	ACSM sports medicine	ACSM	-	e-book
22.	Muscle Testing and Function	Kendell	4 th	Physical –Library

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Sl.No	Title	Author	Edition& year	Type of book Print/ e
23.	Measurement of joint motion a guide to goniometry	Cynthia C Norkin	3 rd	Physical –Library
24.	Principles of Manual Medicine	Lisa Destefano	4 th	Physical –Library
25.	Rehabilitation for the post surgical orthopedic patient	Lisa & Magnusson	-	Physical –Library
26.	Diagnosis and treatment of movement impairment syndrome	Shirly	-	Physical –Library
27.	Measurement and evaluation in human performance	James Morrow	3 rd	Physical –Library
28.	Manual of combined movements	Brian c	2 nd	Physical –Library
29.	Text book of orthopedic Medicine	James Cyriax	8 th	Physical –Library
30.	Muscle Energy Technique	Leon Chaitow	2 nd	Physical –Library
31.	Modalities for therapeutic intervention	Michlovitz	-	Physical –Library
32.	Evaluation of orthopedic and athletic injuries	Starkey and Jeff ryan	2 nd	Physical –Library
33.	Physical agents	Bernedett hecox	-	Physical –Library
34.	Orthotics in functional rehabilitation of the lower Limb	Deborah and Epler	-	Physical –Library
35.	Therapeutic physical modalities	Kamala Shankar and Randall	-	Physical –Library
36.	Peripheral manipulation	G D Maitlant	3 rd	Physical –Library
37.	Amputations and prosthetics-A case study Approach	Bella J may	2 nd	Physical –Library
38.	Physiotherapy for children	Teresa Pountney	-	Physical –Library
39.	Low back syndromes	Craig E Morris	-	149-304 709- 818
40.	Joint structure and Function	Cynthia Norkin	5 th	Physical –Library
41.	Basic biomechanics of musculoskeletal system	Margareta Nordin	3 rd	Physical –Library
42.	Kinesiology: the mechanics and Path mechanics of human movement	Carol Oatis	2 nd	Physical –Library
43.	Kinesiology of the Musculoskeletal system	Donald A. Neumann	2 nd	Physical –Library
44.	Clinical atlas of human Anatomy	Abrahams, Boon and Spratt	6 th	Physical –Library
45.	Principles and practice of anatomy and physiology	Toratora	10 th	Physical –Library

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46.	Yoga and rehabilitation	Nilima Patel	-	Physical Library
47.	Greenman's principles of manual medicine	Lisa De Stefano	4 th 2011	Print
48.	Physical medicine and rehabilitation	Randall Braddom et al	Second	Print
49.	Pathology and intervention in musculoskeletal rehabilitation	David Magee et al	1 st 2009	Photocopy
50.	Basic biomechanics of the musculoskeletal system	Margareta Nordin et al	3 rd 2001	Print
51.	Clinical atlas of human Anatomy	Peter Abrahams et al	6 ^T H 2008	Print
52.	Kinesiology of the Mskl system: foundations for physical rehab	Donald Neumann	-	Physical –Library
53.	www.electrotherapy.com	-	-	Website
54.	Pthaven	-	-	Website
55.	Pysiopedia	-	-	Website
56.	Neumann	-	-	E book
57.	Radiology made ridiculously simple	-	-	E book
58.	Campbell	-	-	E book
59.	Hand protocols	-	-	E book
60.	Sports rehab	-	-	E book
61.	Sports Physiotherapy	Maria Zuluaga		Copy

MODULE I
INTRODUCTION TO ORTHOPAEDICS AND PAIN

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Module I	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Reference book	Assessment	Supplementary material
1	Introduction to orthopedics-branches, role of physiotherapy in different branches Trauma care, Pain syndromes ,Sports rehabilitation, Health and Fitness	Identify the general role of the physiotherapist in MSK rehabilitation	Didactic	- Essentials of orthopedics and applied physiotherapy Jayanth Joshi Chapter 1 - Physical rehab 6th edition Sullivan 1136-41 - Physical rehab of injured athlete Andrews chapter 7, 157 – 83.		Assignment: recent advance in MSK rehabilitation	
8	Clinical examination in an Orthopedics Patient. History Flag system PSFS Functional Activities Work related History Observation Posture Gait	Understand and perform subjective orthopedic physiotherapy assessment in SOAP & ICF domain for a given case Scenario. Identify flags for given scenario Perform postural and gait assessment	Didactic & clinical case scenario	- Orthopedic physical Assessment. Magee DJ fifth ed Pgs 1-70 - Management of common Musculoskeletal Disorders Kessler pg no.75-113	- Physical rehabilitation Susan B Sullivan 5 th ed Pg 159-192	Assignment : -list out the conditions under each flag system - Important of informed consent in PT - Different types of pathological gait - Postural Analysis - Factors to consider before treating MSK	https://youtu.be/uX_xgezC8YA https://youtu.be/QFkxXQ7NIo

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						- A 30 year old man comes to you with complain of low back pain since one week. Do a brief assessment focusing on the necessary components	
1	Common investigative procedures in orthopedics- lab investigations- indications, Interpretation for physiotherapy	Interpret lab investigations , normal and abnormal values and its relevance to Physiotherapy	Didactic	-Magee 57-70	-Apley 26-28	SCALB/Case scenario	
2	Radiological and Imaging techniques in Orthopaedics. normal features in each joint, bone	List out techniques and views for each joint	Didactic & discussion on radiographs of joints and bones	Apleys 15 – 26	-Magee 57-66	SCALB and Practical manual	X rays – Library
		Identify features of plain radiographs and also identify abnormal findings	Discussion of radiographs- normal, abnormal- fractures	-Clinical orthopedic physical therapy Richardson Iglarsh 626 - 687	-Clinical Radiology Made ridiculously simple Hugue Ouellette,M.D. PatriceTetreault,M. E book ch 5,6,7,8		

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5	Understanding pain	Will able to understand pain,assest the impact of chronic pain and relate examination findings to evaluation and prognosis for individuals with chronic pain	Didactic	-Physical rehabilitation sullivan 7 th edition ch 25 -Management of common musculoskeletal disorders Kessler Ch 3	MCQ/ SCALB	https://youtu.be/xsEvnnk5I74 https://youtu.be/x-JDb_plej https://youtu.be/1FxHshMauww https://youtu.be/jUaqdC2IOYg https://youtu.be/sYt4BusqU3o
10 hour	Revision of Practical skill	Revision of <ul style="list-style-type: none"> • Goniometry • Stretching • anthropometric measurements • MMT • Resisted isometrics,mobilisation • Gait analysis • posture evaluation 	Practical	-Magee 231 - Kinesiology of the Measurement joint motion Norkin 57-90 -Muscle testing and function 4 th ed Kendell 272-293 -Physical Therapy by Scully 340-350	Practical Manual/SCALB	

MODULE II

BASIC OF FRACTURES AND ORTHOPAEDIC SURGERIES AND INTRODUCTION TO DEGENERATION, INFLAMMATION AND INFECTIVE CONDITIONS

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Module II	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Reference book	Assessment	Supplementary material
1	Pathology of inflammation, bone healing and tissue healing	Explain the mechanism of inflammation and healing following injury	Didactic	-Treatment and Rehabilitation of Fractures Hoppenfield ch 1 - Rehabilitation for the post surgical orthopaedic patients Maxey 3 rd edition Pg 2-15	System of Orthopaedics and fracture Apleys 8 th edition Pg 521	MCQ	
2	Stages of soft tissue Healing. Treatment guidelines for soft tissue injuries. Acute. Sub acute, chronic injuries. Repair of soft tissues- rupture of muscle, tendon and Ligamentous tears.	Understand the principles behind soft tissue rehab Interpret the stage of healing and its implication in treatment plan	Didactic	- Foundation of Athletic training 5 th edition Anderson pg 156-171 - Therapeutic exercise for Musculoskeletal Injuries Houghlum chapter 2 - Therapeutic Exercise 5 th edition Carolyn Kisner Ch 10 Pg no.295-307		MCQ	
1	Principles of prevention and management of acute, sub-acute and chronic injuries in sports	Understand principles of assessment and management following of acute, sub-acute and chronic Injuries in sports.	Didactic	- Clinical Sports Medicine 3 rd edition Karim Khan Pg no 78-98		MCQ	

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1	Types of fracture healing and its implication in PT	Understand the importance of analyzing types of fracture healing and how will it affect Rehabilitation	Didactic	- Fractures and Joint injuries Watson-Jones 7 th edition chapter 2 - Treatment and Rehabilitation of Fractures Hoppenfield Pg 2-5	Practical Fracture Treatment fourth edition Ronald Mcrae ch1	MCQ	
1	Fracture types, classification, signs and symptoms, complication, Role of PT When dealing with fracture complications	Identify type of fracture, expected complication of a given scenario. Also student must be able to make plan of PT care in expected complication	Didactic	- Treatment and Rehabilitation of Fractures Hoppenfield pg no.19-57 - Practical Fracture Treatment fourth edition Ronald Mcrae ch 5	- Outline of Fractures , Adams 10 th edition Pg 3-25, 48-67	SCALB/Case scenario	
1	Principle of fracture management-closed and open reduction and its significance in PT care	Identify the type of fixation and how does it affect the rehab plan in various case scenarios	Didactic	- Treatment and Rehabilitation of Fractures Hoppenfield pg no 13-18 - Practical Fracture Treatment fourth edition Ronald Mcrae ch	-Outline of Fractures, Adams 10 th edition Pg 26-47	MCQ	
1	Types of Immobilization, care of devices and PT role during immobilization	Identify the types of fixation and plan PT care depending up on types of immobilization, do and don'ts in immobilization	Didactic	-Essentials of orthopaedics and applied physiotherapy , Jayant Joshi , pg 122 - 140	-Treatment and Rehabilitation of Fractures Hoppenfield Pg 57	MCQ	

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1	Principles of PT management in post fracture rehabilitation	Understand the basic principles of PT management in fracture rehabilitation. Should be able to apply concepts of basic sciences. Should be able to interpret precautions to be taken during rehab process.	Didactic	Essentials of orthopaedics and applied physiotherapy , Jayanth Joshi, pg 1-21	Practical guide to MSK disorders 2nd edition - Ralph M -Fractures and Joint injuries Watson-Jones 7 th edition chapter 2	MCQ	
4	Arthrodesis & Osteotomy Arthroplasty – partial and total- excision Arthroplasty, excision Arthroplasty with implant, interposition. Soft tissue release- tenotomy, myotomy, lengthening Arthroscopy Reattachment of limbs Synovectomy	Apply the basic principles of PT rehab following the mentioned surgeries	Didactic	-Essentials of orthopaedics and applied physiotherapy , Jayanth Joshi , pg 221 -225 -Clinical orthopaedic rehabilitation Brotzman	-Orthopaedics physical therapy 3 rd edition Donatelli Pg 166 -Rehabilitation of post surgical ortho patient- Lisa Maxey 3 rd edition Pg 118,362,382,480.53 6 -Inpatient physiotherapy management of orthopaedic surgery - Lucy Chipchase Pg148	SCALB/Case scenario	

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Module II	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Assessment	Supplementary material
2	Rheumatoid arthritis.	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of rheumatoid arthritis	Didactic	- Jayanth Joshi Pg no 304-309 - Concept in Hand rehabilitation, Barbara Stanley Pg no- 395-418	SCALB/ Case Scenario	x-ray
3	Ankylosing spondylitis	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of AS	Didactic/Practical	- Jayant Joshi Pg no.316-321	SCALB/ Case Scenario	x-ray
1	Gouty arthritis. Psoriatic arthritis. Hemophilic arthritis. Still's disease (juvenile rheumatoid arthritis).	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of arthritic conditions	Didactic	- Jayant Joshi Pg no 321-323,313-316	SCALB/ Case Scenario	
1	Connective Tissue Disorders- Systemic Lupus Erythematosus, Scleroderma, Dermatomyositis	Understand and apply the principles of PT assessment and management following	Didactic	- Jayant Joshi Pg no- 322-323	SCALB/ Case Scenario	

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		surgical and conservative treatment of CTD				
1	Metabolic Bone Diseases: Rickets. Osteomalacia, Osteopenia. Osteoporosis Diabetic complications in joints- Charcot's joints	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of MBD	Didactic	-Jayanth Joshi Pg no 193-196	SCALB/ Case Scenario	
1	Osteomyelitis (Acute /chronic). Brodie's abscess.	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of Osteomyelitis	Didactic	-Essential of orthopaedics and applied physiotherapy Jayanth Joshi 187-192 -Tuberculosis of the skeletal system pg no.174	SCALB/ Case Scenario	
1	TB spine and major joints like shoulder,hip,knee,ankle,elbow etc	Understand and apply the principles of PT assessment and management following surgical and conservative management of TB bone	Didactic	-Jayanth Joshi 368-370 -Tuberculosis of the skeletal system Pg no 191-337,67-153	SCALB/ Case Scenario	

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1	Arthritic conditions: Pyogenic arthritis. Septic arthritis. Syphilitic infection of joints	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of	Didactic	- Jayant joshi pg 191- 192	SCALB/ Case Scenario	
1	Bone Tumors: Osteoma. Osteosarcoma, Osteochondroma. Enchondroma. Ewing's Sarcoma. Giant cell tumour. Multiple myeloma. Metastatic tumours	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of bone tumours, arthritic conditions	Didactic	- Jayanth Joshi Pg no197-200	SCALB/ Case Scenario	
1	Perthes disease, Slipped Capital Femoral Epiphysis and Avascular Necrosis.	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of diseases around hip	Didactic	- Jayanth Joshi Pg no.519-524	SCALB/ Case Scenario	

MODULE III

SHOULDER, ELBOW, FOREARM AND WRIST COMPLEX

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Module III	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Reference book	Assessment	Supplementary material
1	Clinical anatomy and biomechanics of shoulder complex`	Surface anatomy, kinetics and kinematics of Shoulder complex	Self study	-Clinical orthopaedic PT-Iglarsh chapter 4 pg no. 159-174	- Clinical atlas of human anatomy. Abrahams P sixth ed Pgs:118-125 &134-147 - Basic biomechanics of the musculoskeletal system Nordin third ed Pgs 318-338	SCALB/Case scenario	
4	Rehabilitation of fractures around the shoulder: -fracture clavicle -fracture of scapula -Fracture of surgical neck of humerus -Fracture of GT -Fracture shaft of humerus	Assess and analyze case of fracture and will be able to differentiate between conservative and surgical management. Apply principles of immediate and long term PT management in fracture rehabilitation.	Didactic	-Treatment & rehab of fractures hoppenfield chapter 13-16	- Fractures and Joint injuries Watson Jones 7 th edition chapter 20	SCALB/Case scenario	

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3	<p>-dislocation of SC joint -subluxation of AC joint -dislocation of shoulder</p>	<p>Identify the type of dislocation and associated injuries Explain mechanism of injury, clinical feature, complications and apply principle of PT rehabilitation following conservative management (Kocher's and Hippocrates maneuver), surgical management (putti plat, bankart's) etc.</p>	didactic	<p>-Essentials of orthopaedics and applied physiotherapy , Jayanth Joshi, pg 78 -82 -Clinical orthopaedic rehabilitation .Brotzman 2nd ed chapter 3, Page 101-103</p>	<p>- Fracture and joint injuries Watson –jones 6th Pg 545-561,630-644 -Rehabilitation of post surgical ortho patient Lisa Maxey 3rd edition chapter 4 -Brotzman 2nd chapter 3 -Apleys 585-593</p>	SCALB/Case scenario	
1	<p>Arthroplasty and total replacement of shoulder</p>	<p>Apply the basic principles of PT rehab following Arthroplasty and total replacement</p>	Didactic	<p>-Clinical orthopaedic rehabilitation Brotzman</p>	<p>Rehabilitation of post surgical ortho patient- Lisa Maxey 3rd edition</p>	SCALB/Case scenario	

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5	<p>Soft tissue injuries around shoulder and its management</p> <ul style="list-style-type: none"> -bursitis -Impingement syndrome -Rotator cuff tendinopathy -tendinitis/ tendonosis - scapula dysfunctions -ligament injuries -capsular/labrum tear, -neuropathies 	<p>Understand and apply the principles of assessment and management following any kind of soft tissue injuries around shoulder.</p>	<p>Didactic/ Practical</p>	<p>Clinical orthopedic physical therapy, Richardson Iglarsh Ch-4</p>	<p>Physical therapies in Sport and Exercise kolt pg no.259 Campbell Chapter 44, shoulder Lisa and Magnusson chapter 4 Magee 113-119 Brotzman 125-189</p>	<p>SCALB/Case scenario</p>
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Module III	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Reference book	Assessment	Supplementary material
2	Degenerative condition of shoulder -Periarthritic shoulder	Understand and apply the principles of assessment and management following primary and secondary degenerative changes of shoulder and management of degenerative changes following suprascapular nerve block in shoulder	Didactic/Practical	Clinical orthopedic physical therapy, Richardson Iglarsh pg no.193	Brotzman second edition pg no.227	SCALB/Case scenario	

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1 hour	Clinical anatomy and biomechanics of elbow	Surface anatomy, kinetics and kinematics of elbow, wrist and hand	Self study	Joint structure and function :Norkin 5 th edition Chapter8 pg no.271-301	Clinical atlas of human anatomy. Abrahams P sixth ed Pgs 126-132 Basic biomechanics of the musculoskeletal system Nordin third ed Pgs 340-386	
3 hour	Principles of PT management in fractures around the elbow and forearm -supracondylar fracture of humerus -Fracture of medial and lateral condyle of humerus -Intercondylar fracture of humerus -olecranon fracture -Fracture of head and neck of radius(Excision of radial head) -fracture of capitulum	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture rehabilitation	Didactic	Treatment and rehabilitation of fractures Hoppenfeld pg no.121-169	SCALB/Case scenario	

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1 hour	Rehabilitation of dislocation around elbow -Dislocation of elbow -Radial head dislocation	Identify the type of dislocation, Explain mechanism of injury, clinical feature, complications and apply principle of PT rehabilitation following conservative management and surgical management	Didactic	Watson Jones Fractures and joint injuries Sixth edition ch 22		SCALB/Case scenario	
3 hour	Soft tissues injuries around Elbow and its management -Ligament injuries -Tennis elbow, golfer's elbow, -radial tunnel syndrome -cubital tunnel syndrome -sub olecranon bursitis	Understand and apply the principles of surgical and conservative treatment of Tennis and golfer's	Didactic/Practical	Clinical orthopedic physical therapy, Richardson Iglarsh Pg no.232-242		SCALB/Case scenario	
1 hour	Total elbow replacement	Apply the basic principles of PT rehab following Arthroplasty and total replacement	Didactic	Clinical orthopedic rehabilitation Broztman second edition pg no 101		SCALB/Case scenario	

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1	Clinical anatomy and biomechanics of forearm and wrist	Surface anatomy, kinetics and kinematics of Elbow and wrist	Self study	<p>-Clinical atlas of human anatomy. Abrahams P sixth ed Pgs 126-132</p> <p>-Basic biomechanics of the musculoskeletal system Nordin third ed Pgs 340-386</p>		SCALB/Case scenario	
2	<p>Principles of PT management in fractures around the forearm and wrist</p> <p>-fractures of forearm bones</p> <p>-Monteggia fracture</p> <p>-Galeazzi fracture</p> <p>-colles' fracture</p> <p>-Smith's fracture</p> <p>-Barton's fracture</p>	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture rehabilitation	Didactic	<p>Treatment and Rehabilitation of fractures Hoppenfeld pg no.169-191</p>	<p>Watson Jones Fractures and joint injuries Sixth edition ch 23,24,25</p>	SCALB/Case scenario	
3	Soft tissues injuries around forearm, Wrist and its management Carpal tunnel syndrome, wrist sprain, De'quervain disease, Wrist ganglion tenosynovitis	Understand and apply the principles of surgical and conservative treatment of Carpal tunnel syndrome, wrist sprain, De'quervain disease, Wrist ganglion	Didactic/ Practical	Clinical orthopedic physical therapy, Richardson Iglarsh ch-6		SCALB/Case scenario	

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MODULE IV
HIP, KNEE, ANKLE & FOOT

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Module IV	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Reference book	Assessment
1	Clinical anatomy and biomechanics of hip and pelvis	Surface anatomy, kinetics and kinematics of pelvis and hip	Self study	- Basic biomechanics of musculoskeletal system Nordin third ed Pgs: 202-221	- Clinical atlas of human anatomy . Abrahams P sixth ed Pgs 99-103; 286-309; 314-327	SCALB/Case scenario
1	Principles of PT management in fractures of pelvic	Apply the principles of PT management in rehabilitation following conservative and surgical management of pelvic fractures	Didactic	Watson Jones fractures and joint Injuries sixth edition ch 28	Essentials of orthopaedics and applied physiotherapy , Jayanth Joshi, pg 148-152 Clinical orthopaedic PT-Iglarsh chapter 3	SCALB/Case scenario
2	Principles of PT management in fractures around hip -Neck of femur fracture -IT Fracture -Shaft of femur fracture	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture rehabilitation	Didactic	Treatment & rehab of fractures-hoppenfield chapter 21-24	Essentials of orthopaedics and applied physiotherapy , Jayanth Joshi, pg 152-163	SCALB/Case scenario

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Module IV	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Reference book	Assessment
2	Rehabilitation of dislocation around hip and associated complications	Identify the type of dislocation, Explain mechanism of injury, clinical feature, complications and apply principle of PT rehabilitation following conservative management and surgical management	Didactic	Fracture and joint injuries Watson – jones 6th Pg 895-934		SCALB/Case scenario
2	Degenerative diseases Osteoarthritis hip	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of OA hip	Didactic/Practical	Essentials of orthopaedics and applied physiotherapy , Jayanth Joshi, pg 221 -225 Clinical orthopaedic rehabilitation	Orthopaedics physical therapy 3rd edition Donatelli Pg 166 Rehabilitation of post surgical ortho patient Lisa Maxey 3rd edition Pg 118,362,382,480.536	SCALB/Case scenario

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1	Arthroplasty –hemi ,total and excisional arthroplasty	Apply the basic principles of PT rehab following the mentioned surgeries		Brotzman 152 Clinical orthopaedic PT-Iglarsh pg no. 386	Inpatient physiotherapy management of orthopaedic surgery - Lucy Chipchase Pg148	
1	Soft tissue injuries around hip and its management -Bursitis -FAI	Understand and apply the principles of assessment and management following surgical and conservative treatment of	Didactic	Clinical orthopaedic PT-Iglarsh pg no.383	Clinical orthopaedic PT-Iglarsh pg no.338	SCALB/Case scenario
1	Clinical anatomy and biomechanics of knee	Surface anatomy, kinetics and kinematics of knee	Didactic/Practical	Basic biomechanics of the musculoskeletal system Nordin ^{3rd} ed Pgs: 176-200	Clinical atlas of human anatomy. Abrahams P sixth ed Pgs 298-309; 328-343	SCALB/Case scenario
2	Principles of PT management in fractures around Knee -supracondylar fracture of femur -condylar fracture -patella fracture -tibia plateau fracture	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture	Didactic	Treatment & rehab of fractures-hoppenfield chapter 25-29	Essentials of orthopaedics and applied physiotherapy , Jayanth Joshi, pg 163-179	SCALB/Case scenario

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		rehabilitation				
2	Principles of PT management in Dislocation of patella. Recurrent dislocation of Patella Lateral retinacular release	Explain mechanism of injury, clinical features, complications, conservative and surgical management of patellar dislocation. Interpret complications and principles of PT management following surgical and conservative management of patellar dislocation.	Didactic	Fracture and joint injuries Watson – jones 6th edition ch 31	Rehabilitation of post surgical ortho patient- Lisa Maxey 3 ^r edition Pg 4-7 ^d Clinical orthopaedic rehabilitation Brotzman 321-341	SCALB/Case scenario
1	Principles of PT management in -fracture tibial/fibula shaft -both bone fracture	Understand and apply the principles of assessment and management following surgical and conservative treatment of fractures in tibia and fibula.	Didactic	Treatment & rehab of fractures-hoppenfield chapter 27-29	Watson Jones Fractures and joint injuries Sixth edition ch32	SCALB/Case scenario
12	Ligament injuries around knee and its management	Understand and apply the principles of assessment and management following surgical and conservative treatment of ACL,PCL,MCL and LCL injury	Didactic/Practical	Clinical orthopaedic rehabilitation Brotzman second edition pg no.251-315	Clinical orthopaedic PT-Iglarsh Ch 8	SCALB/Case scenario
3	Meniscectomy and meniscal repair	Understand and apply the principles of assessment and	Didactic/Practical	Clinical orthopaedic rehabilitation	Rehabilitation of post surgical orthopaedic	SCALB/Case scenario

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		management following surgical and conservative treatment of meniscal injuries		Brotzman second edition pg no.251-315	patient Lisa Maxey ch- 24,28	
2	Bursitis around knee joint Pre, supra , infra patellar bursitis Becker's cyst,Plica syndrome,Hoffa's syndrome and patellar dysfunction	Understand and apply the principles of assessment and management following surgical and conservative treatment of Pre, supra infra patellar bursitis, becker's cyst	Didactic	Clinical orthopedic rehabilitation Brotzman Pg no 251-330	Lisa Maxey 3 rd edition ch- 22,24	SCALB/Case scenario
2	Patellar tendon ruptures and Patellectomy Realignment of extensor mechanism	management following surgical and conservative treatment of Patellar tendon ruptures and Patellectomy Understand principles of management of quadriceps lag	Didactic/Practical	Rehabilitation of post surgical orthopaedic patient Lisa Maxey ch- 23		SCALB/Case scenario
2	Contusion & strain of Hamstring ,quadriceps and calf	Understand and apply the ent and managemprinciples of assessment following surgical and conservative treatment of sport injuries	Didactic/Practical	Clinical orthopaedic rehabilitation Brotzman second edition pg no.490	Karim khan 427-457	SCALB/Case scenario
1 hour	Degenerative diseases Osteoarthritis Knee	Understand and apply the principles of PT assessment and management following surgical and conservative treatment	Didactic/Practical	Clinical orthopaedic rehabilitation Brotzman second edition ch 6 pg no 458	Clinical orthopaedic PT-Iglarsh pg no 476	SCALB/Case scenario
1hour	TKR					

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		of OA knee				
1	Clinical anatomy And biomechanics of ankle and foot	Surface anatomy, kinetics and kinematics of ankle and foot	Didactic/Practical	Basic biomechanics of the musculoskeletal system Nordin third ed Pgs: 222-254	Clinical atlas of human anatomy. Abrahams P sixth ed Pgs 310-315; 346-353	SCALB/Case scenario
1	Principles of PT management in fractures around ankle & foot -fracture of calcaneum -fracture of talus -Fractures of metatarsal bones -fractures of phalanges of the toes	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture rehabilitation	Didactic/Practical	Treatment & rehab of fractures-hoppenfield ch 30-34	Essentials of orthopaedics and applied physiotherapy Jayanth Joshi, pg 179 - 185	SCALB/Case scenario
2	Principles of PT management in soft tissue injuries around ankle & foot -Ligament injuries -plantar fasciitis -Retrocalcaneum bursitis -metatarsalgia	Understand and apply principles of PT assessment and management of soft tissue injuries around ankle	Didactic/Practical	KariKhan Pg no 648-652 Brotzmam second edition ch 5	Clinical orthopaedic PT-Iglarsh ch 9	SCALB/Case scenario
1	TA rupture	Understand and apply principles of PT assessment and management following conservative and surgical treatment of TA rupture.	Didactic/Practical	Clinical orthopaedic PT-Iglarsh ch 9		SCALB/Case scenario

MODULE V
SPINE

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Module V	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers
1 hour	Clinical anatomy and biomechanics of cervical spine	Understand Surface anatomy, kinetics and kinematics and patho mechanics of cervical spine	Didactic	Clinical orthopedic physical therapy ch1pg no.4,5,10
1 hour	Clinical anatomy and biomechanics of thoracic spine	Understand Surface anatomy, kinetics and kinematics and of thoracic spine	Self study	Clinical orthopedic physical therapy ch 2 ph no.73,76
1 hour	Clinical anatomy and biomechanics of lumbar spine and sacral	Understand Surface anatomy, kinetics and kinematics and of lumbar spine and sacral	Didactic	Clinical orthopedic physical therapy ch 3 pg no.120,135
1 hour	Principles of PT management in fractures around cervical spine	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture rehabilitation	Didactic	Treatment and fracture rehabilitation hoppenfeld pg no.513-557
1 hour	Principles of PT management in fractures around thoracic spine- ,Fracture of Rib Cage, Fracture of Sternum	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture rehabilitation	Didactic	Treatment and fracture rehabilitation hoppenfeld pg no.561
2 hour	Principles of PT management in fractures around lumbar spine and sacral	Assess and analyse a case of fracture and will be able to differentiate between conservative and surgical management and apply the principles of immediate and long term PT management in fracture rehabilitation	Didactic	Treatment and fracture rehabilitation hoppenfeld pg no.561

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3	Regional injuries of TM Joint	Understand and apply principle of PT assessment and management following TMJ dysfunction	Didactic/Practical	Management of common Musculoskeletal disorders ,Kessler ch 11 Clinical orthopedic physical therapy Richardson Iglarsh ch 1
6	Regional injuries of the cervical spine and its management using Treatment based classification.	Understand and apply the principles of assessment and management following the soft tissue injuries around spine.	Didactic/Practical	Clinical orthopedic physical therapy Richardson Iglarsh pg no 51 107-117
6	Regional injuries of the lumbar spine and its management using Treatment based classification	Understand and apply the principles of assessment and management following degenerative changes of cervical spine	Didactic/Practical	-Clinical orthopaedic physical therapy Iglarsh pg no140-151 -Therapeutic exercise for lumbopelvic stabilization second edition Richardson
2	Spinal Stabilization Surgery	Understand the principle of PT assessment and management following spinal stabilization surgery	Didactic/Practical	Therapeutic exercise for lumbopelvic stabilization second edition Richardson
2	Spinal traction Types of traction Modes of application Indications for spinal traction Contraindications Precautions Limitations of traction	Understand the principles, uses, indication, contraindication ,precautions and application of spinal traction	Didactic/Practical	Hand book of physical medicine and rehabilitation Rnadall L Braddom 282-288

MODULE VI
FITNESS AND MANUAL THERAPY

Module VI	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	
5	Physical fitness	Understand the components of physical fitness and apply the principles of fitness assessment & testing in real practice.	Didactic/Practical	ACSM guideline	Practical/SCALB
5	Manual therapy Briefly Maitland McKenzie	Understand the principles, uses, indication, contraindication, precautions and application of manual therapy technique	Didactic/Practical	Kisner 110-145 Grievess modern manual therapy by Jerffrey D Boying Principles of Manual therapy –Sebastian Peripheral Manipulation 3 rd edition Maitland	SCALB/Practical manual

MODULE VII
CONGENITAL DEFORMITY

Module VII	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Assessment	Supplementary material
1	CTEV	Understand and apply the principles of assessment and management following surgical and conservative treatment of CTEV	Didactic	Apleys system of orthopaedics and fractures 13-16; 371-72, Review of orthopaedics MILLER 173-198, Magee 250; 283-285; 511; 335-343; 614-	Case presentation	X ray Videos
1	CDH	Understand and apply the principles of assessment and management following surgical and conservative treatment of CDH	Didactic		Case presentation	X ray Videos
1	Torticollis, cervical rib	Understand and apply the principles of assessment and management following surgical and conservative treatment of Torticollis	Practical Didactic		Case presentation	X ray
1	Scoliosis. Kyphosis. Lordosis. Genu	Understand and apply the principles of assessment and management	PG seminar			X ray
	varum. Genu valgum. Genu recurvatum, Coxa vara	following surgical and conservative treatment of spinal, hip and knee deformities		Case presentation	Videos	

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	<p>Flat foot, pes Cavus , Vertical talus, hallux valgus, rigidus, hammer toe, hallux rigidus, metatarsalgia, mortons neurom</p>	<p>Understand and apply the principles of assessment and management following surgical and conservative treatment of deformities of foot`</p>		<p>621 Magee 697-724 Apleys system of orthopaedics and fractures</p>	<p>Case presentation</p>	<p>X ray Videos</p>
	<p>Hand anomalies- syndactyly, polydactyly and ectrodactyly. Arthrogryposis multiplex congenita(amyoplasia congenita). Limb deficiencies- Amelia and Phocomelia. Klippel feil syndrome. Osteogenesis imperfect (fragile ossium)</p>	<p>Understand and apply the principles of assessment and management following surgical and conservative treatment of anomalies and deficiencies of hand</p>		<p>419-495 Review of orthopaedics MILLER Pg no 197-198</p>	<p>Case presentation</p>	<p>X ray Videos</p>

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MODULE VIII

MISCELLANEOUS

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Module VIII	Lesson name	Learning objective of the unit the student will be able to:	Type of instruction	Prescribed book with page numbers	Reference Books with page numbers	Assessment	Supplementary material
2	Peripheral nerve injuries Brachial plexus injuries Ulnar nerve injuries Median nerve injuries Radial nerve injuries Common peroneal nerve injuries	Understand and apply the principles of PT assessment and management following surgical and conservative treatment of PNI	Didactic	orthopaedic and applied physiotherapy Jayant Joshi 253-273	Hunter , 5 th ed, Vol I Chapter VII, VIII, IX Pg: 581-762 Umphred , 5 th ed, Pg No 166,462-464,1041 Sundar , 3ed Pg:362-364	SCALB/ Case presentation	Hand pain and impairment Rene Caillet 3 rd ed
3	Amputations: stump care and bandaging Pre and post prosthetic training, check out prosthesis evaluation, complications of amputations and its management	Understand graded motor imagery(GMI) and apply the principles of PT assessment and management Following amputation.	Didactic/ Practical	Handbook of physical medicine and rehabilitation Randall Braddom 151-190	Lucardi , 3ed Amputation and Prosthetics 2 nd edition 2 nd	SCALB / Case presentation	Physical Rehabilitation Susan O'Sullivan 5 th ed Chapter 25
1	Cerebral palsy: Definition, Etiology Classification Clinical features Complications Deformities	Understand and apply the principles of PT assessment and management of CP	Didactic	Physiotherapy for children Teresa Pountney Pgs 90-108 Handbook of physical medicine and rehabilitation Randall Braddom Pgs:783-797	IAP text book of Paediatrics	SCALB/ Case presentation	Physical rehabilitation Suan O'Sullivan 5 th ed 320-335 The rehabilitation specialist's handbook Jules Rothstein

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1	<p>Poliomyelitis: Definition, aetiology, types Pathophysiology Clinical features</p> <p>Deformities surgical corrections and reconstructive surgeries - emphasis on tendon transfer and home program</p>	Understand and apply the principles of PT assessment and management of PM	Didactic	<p>Mercer's Orthopaedic surgery Robert Duthie 9thed 411-421;</p>	<p>IAP text book of Paediatrics, PG 350-362Sundar, 3ed Pg: 330-334</p>	SCALB/ Case presentation	Orthotics Deborah Nawoczenski 205-272
2	<p>Leprosy Definition Cause Clinical features Medical and surgical management</p>	Understand and apply the principles of PT assessment and management of PM	Didactic	<p>All About Leprosy PVS Prasad</p>			
2	<p>Applied Yoga in orthopedic conditions</p>	Understand and apply the principles yoga in managing various physical disorders	Practical	<p>Yoga and Rehabilitati on Nilima Patel 83-90, 104-121; 202-215 Alternativ e therapies Swati Bhagat</p>			

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Module VIII	Lesson name	Learning objective <i>At the end of the unit the student will be able to:</i>	Type of instruction	Prescribed book with page numbers	Assessment	Supplementary material
7	Introduction to Bio engineering					
	<ol style="list-style-type: none"> 1) Classification of Orthoses and prostheses 2) Biomechanical principles of orthotic and prosthetic application 3) Designing of upper extremity orthotics and prosthetics 4) Lower extremity orthotics and prosthetics 5) Spinal orthosis 6) Indications and check out 7) Indications and check out 8) Psychological aspects of orthotic and prosthetic application 9) Prescription and designing of footwear and modifications 10) Designing, reasoning and construction of adaptive devices 	<p>Identify various orthosis and Prosthesis with its parts.</p> <p>Apply principles of orthosis and Prosthesis in rehabilitation.</p>	<p>Visit to ALC</p>	<p>Handbook of physical Medicine and rehabilitation on Randall Braddom 151-190</p> <p>Orthotics in functional rehabilitation of the lower limb Deborah Nawoczen ski Pgs 1-156</p> <p>Physical Rehabilitation Susan O'Sullivan 5thed, Chapter 25</p>		

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