GANPAT UNIVERSITY										
FACULTY OF HEALTH AND ALLIED SCIENCES										
Program	**Bachelor of Physiotherapy (BPT)**						**Branch**			
Year	**4**						**Version**	1.0.0.0		
Effective from the Academic year			2025-26	**Effective for the batches admitted from**						2022-23
Course Code	BPT402	**Course Name**	**Physiotherapy in Musculoskeletal Conditions**							
Teaching Scheme Per Year				**Examination Scheme**						
	Th	**Pr**	**Total**	**Marks**	**Internal**	**External**	**Total**	**Duration**	**Internal**	**External**
Hours	114	19	133	Theory	20	80	100	Theory	3 hr.	3 hr.
Credit	6.5			Practical	20	80	100	Practical	3 hr.	3 hr.
Prerequisite	Nil									

COURSE OBJECTIVES

1	To identify and analyze musculoskeletal dysfunctions by applying biomechanical, kinesiological, and biophysical principles to clinical assessment.
2	To plan, implement, and evaluate physiotherapy treatment strategies using mobilization, manipulation, electrotherapy, and therapeutic exercise tailored to individual patient needs.
3	To understand and apply physiotherapeutic interventions in the pre-operative and post-operative phases of orthopedic surgeries to facilitate recovery and functional restoration.
4	To assess and manage pediatric and orthopedic deformities using the ICF framework, integrating clinical reasoning and patient-centered care.
5	To understand and integrate ergonomic principles and therapeutic planning to enhance functional independence and improve quality of life across various populations.
6	To apply and evaluate sports medicine principles to design physiotherapy interventions for the prevention, management, and rehabilitation of sports-related injuries.

THEORY & PRACTICAL SYLLABUS

Unit	Content	Hrs. (Th+Pr)
1	**Evaluation, Investigations & Functional Diagnosis** 1.1 ICF with appropriate clinical reasoning for planning & Implementation of Management techniques Documentation 1.2 Short -term goals & Long-term Goals	**04** (03+01)
2	**Different Electro therapeutic techniques** 2.1 Technique for relief of acute and chronic pain, swelling, wound healing, re-education with clinical reasoning	**02** (01+01)
3	**Different Physiotherapeutic techniques for Surgical Management**	**04** (02+02)
4	**Different Physiotherapeutic strategies to improve Posture**	**02** (01+01)
5	**Different Physiotherapeutic Strategies to improve efficiency and safety of gait pattern**	**02** (01+01)
6	**Physiotherapy Techniques to Improve Ergonomics:** 6.1 Appropriate Home Program 6.2 Ergonomic advice for preventive measures 6.3 Functional efficiency at home & work place	**03** (02+01)
7	**Physiotherapy Approach in Traumatology** 7.1 Fracture: 7.1.1 Definition of fracture 7.1.2 Classification of fracture 7.1.3 Signs and symptoms of fracture 7.1.4 Healing process of fracture & Factors affecting healing 7.1.5 Methods of reduction & Complications of fracture 7.2 Physiotherapy assessment and management of upper limb fractures and dislocations. 7.3 Physiotherapy assessment and management lower Limb fractures and dislocations including pelvis and spinal fractures.	**15** (10+05)

8	**Physiotherapy assessment & management of Shoulder joint Conditions**: 8.1 TOS 8.2 RSD 8.3 Shoulder instabilities, AC joint injuries & Periarthritis Shoulder, Rotator cuff Tears, Impingement syndrome Like Supraspinatus and Bicipital tendonitis, sub acromial decompression. 8.4 SLAP lesion 8.5 GIRD & GERD 8.6 Scapula Dyskinesia	**06** (03+03)
9	**Physiotherapy assessment & management of Elbow and forearm**: 9.1 Tennis elbow 9.2 Golfer's elbow 9.3 Olecranon bursitis 9.4 Radial tunnel syndrome 9.5 Cubital tunnel syndrome 9.6 Post elbow fracture rehabilitation	**02** (01+01)
10	**Physiotherapy assessment & management of Wrist and Hand conditions**: 10.1 Wrist sprains 10.2 Dequervain's Tenosynovitis 10.3 Trigger and Mallet finger 10.4 Repair of ruptured Flexor and Extensor tendons 10.5 Carpal tunnel syndrome 10.6 Hand injury- types and their management	**04** (02+02)
11	**Musculoskeletal conditions of Hip joint and upper leg Component.** 11.1 Physiotherapy assessment & management of Congenital dislocation of Hip 11.2 Physiotherapy assessment & management of Musculoskeletal conditions of pelvis 11.3 Physiotherapy assessment & management of Thigh Bone Tumors in and around hip joint	**06** (03+03)
12	**Physiotherapy assessment & management of Knee Conditions:** 12.1 ACL, PCL and MCL reconstruction surgeries and Post-operative rehabilitation 12.2 Meniscectomy and meniscal repair - Post operative management rehabilitation 12.3 Pre patellar and Subacromial bursitis 12.4 Anterior Knee pain: 12.4.1 PFPS 12.4.2 Plica syndrome 12.4.3 Patellar dysfunction 12.4.4 Hoffa's syndrome 12.5 Hamstring strains & Quadriceps contusion. 12.6 TKR- rehabilitation protocol 12.7 Patellar tendon ruptures and Patellectomy- rehabilitation	**07** (04+03)
13	**Physiotherapy assessment & management of Ankle and foot Conditions**: - 13.1 Ankle instability: Lateral ligament sprain of ankle, Ligamentous tears- Post operative management 13.2 TA rupture 13.3 Plantar fasciitis 13.4 Metatarsalgia 13.5 Hammer toe & turf toe 13.6 OA ankle	**03** (02+01)
14	**Physiotherapy assessment & management of spinal Conditions** 14.1 Spondylolisthesis 14.2 Spinal canal stenosis 14.3 Spondylolysis, 14.4 Intervertebral disc prolapse 14.5 Sacro-iliac joint dysfunction 14.6 Sciatica 14.7 Coccydynia & Sacralization 14.8 Lower cross syndrome	**07** (03+04)

	14.9 Lumbar canal stenosis Lumbarization 14.10 Spina bifida occulta 14.11 Ankylosing spondylitis	
15	**Physiotherapy assessment & management of soft tissue injury** 15.1 Contusion, Sprains, strains & ruptures	**03** (02+01)
16	**Physiotherapy assessment & management of degenerative conditions:** 16.1 Osteoarthritis of Knee, Hip and Hand. 16.2 Cervical spondylosis & lumbar spondylosis	**06** (03+03)
17	**Physiotherapy assessment & management of inflammatory Degenerative Conditions** 17.1 Rheumatoid arthritis (RA) 17.2 Ankylosing spondylitis (AS) 17.3 Still's disease 17.4 Gout 17.5 Periarthritis, bursitis, synovitis, capsulitis, tendinitis, tenosynovitis, fasciitis 17.6 Osgood Schlatter disease 17.7 Prolapsed interverbal disc (PID), Spinal Canal Stenosis, Spondylosis (cervical and lumbar), Spondylolysis, Spondylolisthesis and Lumbago/ Lumbosacral strain 17.8 Connective Tissue Disorders: 17.8.1 Systemic Lupus Erythematous 17.8.2 Scleroderma 17.8.3 Dermatomyositis	**16** (10+06)
18	**Physiotherapy assessment and management of infective Conditions** 18.1 Tuberculosis (TB) of spine and other major joints 18.2 Osteomyelitis & Bone tumors 18.3 Pyogenic arthritis & septic arthritis 18.4 Metabolic bone disease & Perthes diseases	**07** (05+02)
19	**Physiotherapy assessment & management of congenital and acquired deformities** 19.1 Congenital - CTEV, CDH, Torticollis, pes planus, pes caves, Sprengel's scapula, Madelung's deformity 19.2 Acquired: scoliosis, kyphosis, coxa vara, genu varum, genu valgum and recurvatum, wry neck Torticollis, Scoliosis, Flat foot, Vertical talus 19.3 Hand anomalies & Limb deficiencies - syndactyly, polydactyly and ectrodactly, Arthrogryposis multiplex Congenita (amyoplasia congenita), Amelia and Phocomelia, Klippel feil syndrome, Osteogenesis Imperfecta, Cervical rib, Coxa vara, Pes Cavus, Hallux rigidus,Hallux valgus, Hammer toe, Metatarsalgia	**10** (06+04)
20	**Physiotherapy assessment & management of amputations** 20.1 Definition, indications, types, levels of amputation of lower and upper extremities, pre and post-operative 20.2 Assessment and management with emphasize on stump care and bandaging, pre and post prosthetic training and complete rehabilitation, Orthosis & Prosthesis	**10** (06+04)
21	**Rehabilitation of patient with orthopedic surgery Pre and post-operative management of arthroplasty** 21.1 All major joints, girdle stone arthroplasty, arthrodesis, arthroscopy 21.2 Osteotomy & Tendon transfers & reattachment of limb	**05** (03+02)
22	**Physiotherapy assessment & management of miscellaneous orthopedic conditions** 22.1 Dupuytren's contracture 22.2 Thoracic outlet syndrome 22.3 Chondromalacia patellae 22.4 Ganglion & Trigger finger	**04** (02+02)
23	**Sports Medicine** 23.1 Introduction & classification of sports injury Assessment, identify and provisionally etiological factors 23.2 Prevention of sports injury Frequency and site of injury Investigation & Management of sports injuries	**05** (03+02)
	Total	**133**

COURSE OUTCOME	
CO1	To gain the ability to assess and diagnose musculoskeletal and sports conditions using the ICF model and clinical reasoning.
CO2	To develop skills to apply electrotherapy and manual techniques for pain relief, healing, and functional recovery.
CO3	To be able to plan and implement physiotherapy for orthopedic surgeries and fracture rehabilitation.
CO4	To develop the competence to manage joint and soft tissue conditions using clinical tools and therapeutic exercises.
CO5	To be able to design home exercise programs and ergonomic strategies for functional independence and injury prevention.
CO6	To gain knowledge to apply sports medicine principles in preventing and managing sports-related orthopedic injuries.

COURSE ARTICULATION MATRIX

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	1	3	-	1	2	-	-
CO2	3	1	2	2	3	1	1	-
CO3	3	1	2	2	1	1	-	-
CO4	2	1	2	2	1	1	-	1
CO5	1	2	2	1	-	1	-	-
CO6	3	2	2	3	1	2	-	-

"-" No correlation "1" Low "2" Moderate "3" High

STRUCTURE OF QUESTION PAPER- Theory

Duration: 3 Hours (Passing marks – 40)

Section – I (40 marks)	Que. 1 Multiple Choice Question	6 x 01 = 06	All Mandatory
	Que. 2 Very Short Answer	2 x 02 = 04	(Any 2 out of 3)
	Que. 3 Short Answer	4 x 05 = 20	(Any 4 out of 5)
	Que. 4 Long Answer	1 x 10 = 10	(Any 1 out of 2)
Section – II (40 marks)	Que. 5 Multiple Choice Question	6 x 01 = 06	All Mandatory
	Que. 6 Very Short Answer	2 x 02 = 04	(Any 2 out of 3)
	Que. 7 Short Answer	4 x 05 = 20	(Any 4 out of 5)
	Que. 8 Long Answer	1 x 10 = 10	(Any 1 out of 2)

BOOKS RECOMMENDED

Textbooks:

1	Orthopedics physical examination, 5TH Edition, Magee, Elsevier, 2014
2	Cash's textbook of Orthopedics and Rheumatology for physiotherapists, Joan e. Cash, Mosby, 1992 7th Edition, Mosby-year book
3	Essentials of orthopedics and applied physiotherapy, Jayant Joshi, Elsevier, 2020,3rd Edition
3	Clinical Orthopedic Rehabilitation S. Brent Brotzman & Kevin E. Wilk,2nd Edition

Reference Books:

1	Rehabilitation for the postsurgical orthopedic patient Lisa maxey,3rd Edition, Elsevier Health -US
2	Management of Common Musculoskeletal Disorders Physical Therapy Principles and Methods Darlene Hertling & Randolph M. Kessler,3RD Edition
3	Therapeutic Exercises, Foundation and Techniques, Colby and Kisner, F A Davis co, 2012,7th Edition
4	Physical rehabilitation, O'sullivan, , F A Davis co , 2014,7th Edition,Jaypee medical