

JHARKHAND RAI UNIVERSITY



Bachelor of Physiotherapy (BPT)

EIGHTH SEMESTER SYLLABUS

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DEPARTMENT OF PHYSIOTHERAPY (BPT)

Duration: Four years Six months

Academic Year: 2022 – 2026

Syllabus

COURSE SCHEME											
BATCH 2022-2026											
BACHELOR OF PHYSIOTHERAPY											
CHOICE BASED CREDIT SYSTEM											
SEMESTER VIII											
S.No	CODE	COURSE TITLE	Periods			Evaluation Scheme				Subject Total	Credit
			L	T	P	Assignment	TA	Total	ESE		
1	23A801	PROSTHETICS & ORTHOTICS	4	0	0	20	10	30	70	100	4
2	23A802	PHYSIOTHERAPY IN NEUROLOGICAL CONDITIONS - II	4	0	0	20	10	30	70	100	4
3	23A803	PHYSIOTHERAPY IN SPORTS CONDITIONS - II	4	0	0	20	10	30	70	100	4
4	23AOE01	OPEN ELECTIVE	2	0	0	20	10	30	70	100	2
PRACTICAL/SESSIONAL											
1	23A802P	PHYSIOTHERAPY IN NEUROLOGICAL CONDITIONS -II	0	0	4			30	20	50	2
2	23A803P	PHYSIOTHERAPY IN SPORTS CONDITIONS -II	0	0	4			30	20	50	2
3	23A805P	PT CLINICALS & PROJECT WORK	0	0	16			30	20	50	8
4	23A806P	PROJECT WORK	0	0	4			100	100	200	2
5	40BPT.452 P	WORKSHOP ON EMPLOYABILITY SKILLS (GD/PI)	0	0	2			30	20	50	0
								Total		800	28

Program: Bachelor of Physiotherapy (BPT)

Semester: Eighth

Course: Prosthetics & Orthotics

Course Code: 23A801

L	T	P	Credits
4	0	0	4

COURSE LEARNING OBJECTIVE

CLO1: This subject makes students knowledgeable in the area of Prosthetic and Orthotics clinical conditions and

CLO2: Learn to analyze conditions by means of appropriate measuring instruments.

CLO3: Gain knowledge how to assess for Orthotics and Prosthetic prescription.

COURSE OUTCOME

At the end of the course candidate will able to

CO1: Differentiate different types of Prosthetics & Orthotics and its fittings.

CO2: Apply splint, tape, and bandage as per the demand of device.

CO3: Assess and manage different Prosthetics and Orthotics device of upper limb, lower limb and spine.

UNIT 1: Introduction to Orthotics: Introduction to surgical anatomy and various pathological deviations with respect to brace fitting. Types of Prosthetic and Orthotic devices, Rationale of prescribing Prosthetic and Orthotic devices; Techniques used in splinting, taping and bandaging; Biomechanical implications of designing of prosthesis and orthosis.

UNIT 2: Introduction to Prosthetics prosthetic assessment and management, Orthotic assessment & management; Checkout, usage advice, precautions, and follow-up. Care of prosthesis & orthosis Methods of donning & doffing, Psychological aspect of orthotic and prosthetic application.

UNIT 3: Upper limb orthosis & Prosthetics -shoulder and arm orthosis, elbow orthosis, wrist orthosis, hand orthosis, tenodesis orthosis, finger orthosis, Static and dynamic splints, C-splint, Short opponens splint, long opponens splint, cock- up splint, gutter splint, bunell knuckle bender splint, reverse knuckle bender splint,

UNIT 4: Lower limb orthosis & Prosthetics: material and fabrication of lower limb orthosis, AFO, KAFO, HKAFO. Foot orthosis; Assessment of Gait post orthotic (Lower Limb) fitting; General principles of orthosis, contraindications to orthosis, Knowledge of various component of orthosis,

UNIT 5: Spinal orthosis: cervical orthosis, Halo orthosis Head cervical-thoracic orthosis, SOMI brace, Thoraco-lumbar sacral orthosis, CASH orthosis, Taylor brace, Milwaukee brace, lumbosacral orthosis, lumbo sacral corset, sacral orthosis, Walking aids and wheel chairs: Introduction to mobility aids, prescription, usage advice, and follow-up.

UNIT 6: Prosthetics :Amputation and Prosthetics, Knowledge of various component of prosthesis; Classification of prosthesis, Power system used, materials used, Upper limb prosthesis- components, Above Elbow prosthesis, Below Elbow prosthesis, Prosthetic hands. Lower limb prosthesis- components, syme's prosthesis, PTB prosthesis, prosthesis for transfemoral amputation, prosthesis for transtibial amputation, prosthesis for hip disarticulation, stubbies Assessment of Gait post Prosthetic fitting; Prescription and designing of footwear and modifications.

Suggested Readings:

Text Books:

1. Clinical sport medicine By Peter Brukner and Karim Khan
2. Physical therapy in sport by Journal Elsevier
3. Physical Rehabilitation in injured Athletes by Andrews Harrelson Wilk

Reference Books:

1. Sport and physical therapy – Bernhardt Donna, Churchill Livingstone,
2. Cash, M. Sport and Remedial Massage therapy. London: Edbury, 1996

Note: Latest editions of all the suggested books are recommended.

Program: Bachelor of Physiotherapy (BPT)

Semester: Eighth

Course: Physiotherapy in Neurological Conditions - II

Course Code: 23A802

L	T	P	Credits
4	0	0	4

COURSE LEARNING OBJECTIVE

CLO1: Student will learn about assessment of neurology patient.

CLO2: Gain knowledge about disabilities and dysfunction.

CLO3: Learn about how to set goals and plan treatment.

COURSE OUTCOME

At the end of the course candidate will able to

CO1: Assess and treat different neurological conditions like Stroke, Parkinson's disease, Cerebral Palsy, Facial Palsy, etc.

CO2: Differentiate upper and lower motor neuron lesion, neuropathies, myopathies etc.

CO3: Do assessment and treatment of different neurosurgeries like craniotomy, brain tumor, cervical cord decompression, peripheral nerve injuries etc.

UNIT 1: Assessment and principles of therapeutic management of following neurological conditions: • Stroke, meningitis, encephalitis, Parkinson's disease, cerebellar lesions, Multiple Sclerosis, facial palsy.

UNIT 2: Cerebral palsy: Definition, etiology, classification, clinical features, complications, deformities, medical and surgical management and home program with special emphasis on carrying techniques. PT management after surgical corrections in CP.

UNIT 3: Assessment and principles of therapeutic management of following neurological conditions: • Motor neuron disease, Disseminated sclerosis, transverse myelitis, polio, syringomyelia, spina bifida, • Neuropathies, neuromuscular junction disorders and myopathies.

UNIT 4: Peripheral nerve injuries, surgical resection & repair: • Classification & types • Functional assessment, investigation, diagnosis & prognosis • Physiotherapeutic management • Poly neuropathy.

UNIT 5: Head injury: Types and Mechanisms of head injury • Clinical features, potential complications • Physiotherapy principles of immediate and postoperative therapeutic management.

UNIT 6: Neurosurgery: Post-surgical Physical therapy in neurosurgical procedures – craniotomy, shunts, SOL resection, surgical treatment of spasticity, cervical cord decompression, Brain tumors, Traumatic brain injury, Physiotherapy principles of immediate and postoperative therapeutic management including reconstructive surgery of poliomyelitis and Leprosy.

Suggested Readings:

Text Books:

1. Cash's Text book for Physio Therapy in Neurological disorders – Jaypee Brothers publication
2. Practical Physical Therapy By Margaret Hollis
3. Therapeutic Exercise By Carolyn Kisner & Colby
4. Physical rehabilitation By Susan. B.O ' Sullivan
5. Tidy's Physiotherapy By Stuart Potter

Reference Books:

1. Therapeutic Exercises By Basmajian -5th edition
2. Physical Rehabilitation By Krusen
3. Brain's disorder s of Nervous System

Note: Latest editions of all the suggested books are recommended.

Program: Bachelor of Physiotherapy (BPT)
Semester: Eighth
Course: Physiotherapy in Sports Conditions -II
Course Code: 23A803

L	T	P	Credits
4	0	0	4

COURSE LEARNING OBJECTIVE

- CLO1:** Student will learn pre training evaluation.
CLO2: Gain knowledge about nutrition and diet plan.
CLO3: Learn about regional sports injuries.

COURSE OUTCOME

At the end of the course candidate will able to

- CO1: Do pre – exercise assessment of flexibility, endurance, strength, etc.
 CO2: Give general guideline about diet.
 CO3: Manage different sports injuries like rotator cuff injury, scapula dyskinesia, tennis elbow, carpal tunnel syndrome.
 CO4: Give guideline for prevention of injuries and pre sports training.
 CO5: Design exercise for specific gender or age group.

UNIT 1: Introduction- Pre-exercise evaluation 2. Diet and nutrition Measurement of fitness components and sports skills –muscular strength, muscular endurance, Measurement of flexibility, Determination exercise endurance.

UNIT 2: Region wise Sports injuries -Shoulder – instability, rotator cuff injury, biceps tendonitis and rupture, pectoralis major rupture, scapular dyskinesia and acromio-clavicular joint injuries.

UNIT 3: Region wise Sports injuries Elbow – tennis elbow, golfer’s elbow, Wrist and hand – carpal tunnel syndrome, gamekeeper’s thumb.

UNIT 4: General principles in sports- Principles of injury prevention, Principles of training & Rehabilitation in sports injuries.

UNIT 5: Sports in Special age groups: Female athletic triad, Younger athlete- Musculoskeletal problems, management, children with chronic illness and nutrition.

UNIT 6: Sports in Special age groups older athlete- Physiological changes with aging, benefits, risks of exercise in elderly, exercise prescription guidelines for elderly.

Suggested Readings:

Text Books:

1. Clinical sport medicine By Peter Brukner and Karim Khan.
2. Physical therapy in sport by Journal Elsevier.
3. Physical Rehabilitation in injured Athletes by Andrews Harrelson Wilk .

Reference Books:

1. Sport and physical therapy – Bernhardt Donna, Churchill Livingstone.
2. Cash, M. Sport and Remedial Massage therapy. London: Edbury, 1996.

Note: Latest editions of all the suggested books are recommended.

Program: Bachelor of Physiotherapy (BPT)
Semester: Eighth
Course: Physiotherapy in Neurological Conditions - II
Course Code: 23A802P

L	T	P	Credits
0	0	4	2

COURSE LEARNING OBJECTIVE

CLO1: Learn about neurological assessment.

CLO2: Gain knowledge on functional assessment.

COURSE OUTCOME

At the end of the course candidate will able to

CO1: Assessment and treatment of neurological patient in various condition.

CO2: Do functional assessment of individual patient.

1. Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of physiotherapy in neurology conditions. Student must maintain a logbook.
2. The duly completed logbook should be submitted.

Note: Student must maintain a logbook. The duly completed logbook should be Submitted during practical examination.

Program: Bachelor of Physiotherapy (BPT)
Semester: Eighth
Course: Physiotherapy in Sports Conditions - II
Course Code: 23A803P

L	T	P	Credits
0	0	4	2

COURSE LEARNING OBJECTIVE

CLO1: Learn about Assessment of sport injury patients.

CLO2: Gain knowledge on Diagnose the condition based upon history and clinical presentation.

CLO3: Learn about clinical Correlate laboratory reports.

COURSE OUTCOME

At the end of the course candidate will able to

CO1: Assess sport injury patient.

CO2: Diagnose the condition based upon history and clinical presentation.

CO3: Correlate laboratory reports & clinical findings and treat condition.

The students will be shown patients of relevant diseases and disorders for:

1. History taking of the conditions of patients.
2. Assessment.
3. Clinical diagnosis of the presentations.
4. Investigations and tests of different clinical presentations.
5. Physiotherapy management of the various disorders & surgeries.

Note: Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Program: Bachelor of Physiotherapy (BPT)

Semester: Eighth

Course: PT Clinicals & Project Work

Course Code: 23A805P

L	T	P	Credits
0	0	16	8

COURSE LEARNING OBJECTIVE

CLO1: Students will be posted in rotation in the following areas/wards. The students will be clinically trained to provide physiotherapy care for the patients under supervision.

CLO2: They will be trained on bed side approach, patient assessment, performing special tests, identifying indications for treatment, ruling out contraindications, decision on treatment parameters, dosage and use relevant outcome measures under supervision.

CLO3: They will be trained on Evidence based practice.

COURSE OUTCOME

At the end of the course candidate will able to

CO1: Provide physiotherapy care.

CO2: Treat patient at bedside.

CO3: Practice evidence based.

1. Physiotherapy OPD
2. Neurology, Neurosurgery & Neuro ICU
3. Community-PHC
4. Orthopedics
5. General Medicine & MICU
6. General Surgery & CTS ICU
7. Developmental Pediatrics & Child Guidance Clinic
8. OBG
9. Geriatric – Old Age Homes
10. Industrial Visits - Ergonomics

Note: Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Program: Bachelor of Physiotherapy (BPT)

Semester: Eighth

Course: Project Work

Course Code: 23A806P

L	T	P	Credits
0	0	4	2

PROJECT WORK- The project may be a case study or of recent technique or literature reviews and etc. to make the student to have research mind and to facilitate for higher studies.

Project will be a clinical assignment on given topic or condition. This may be done in the form of a literature review or a small research project. This will give the student a practical background on research methods and recent advances. This will be done during internship and will be done as a group work of 4-5 students on a given research title. Research Proposal for this project should be approved before fourth year B. Physiotherapy University Examination. Project Guide will be assigned by Principal to students. A Research Advisory Committee [RAC] will be formed in every college having three senior-most faculty members of PHYSIOTHERAPY. This RAC will decide whether the Project is accepted / rejected or it requires corrections. Student will be allotted 1 Hour daily for doing their 'Project Work' schedule till 100 Hours are completed.

Program: Bachelor of Physiotherapy (BPT)
Semester: Eighth
Course: Workshop on Employability Skills (GD/PI)
Course Code: 40BPT.452P

L	T	P	Credits
0	0	2	0

Course Objective: The course aims to:

1. To enhance employability skills for professional development.
2. To learn adaptability and become more approachable in the work environment.
3. To develop essential skills required to increase productivity, efficiency and effectiveness.
4. To develop Problem Solving, confidence building, organisational, team working skills.
5. To train them time management, negotiation, decision making, and effective customer care skills.

Course Outcome:

CO1: Attain improved communication and other essential interpersonal skills.

CO2: Gain ease in switching jobs in the same or different sectors.

CO3: Develop enhanced productivity, efficiency and effectiveness.

CO4: Be equipped with a set of transferable team building skills and general employability skills.

CO5: Gain expertise in time management and negotiation.

(Activity Based)

WORKSHOPS

- Mock Interview HR and Technical
- Group Discussion
- Personal Interview
- Quiz/Brain Teaser
- Role Play
- Ethics of Employment
- Organizational Skills
- Presentation Skills
- Multi-Tasking Skills

Suggested Readings:

Text Books:

1. Skills for Employability by Dr. M.Sengupta Innovative Publication Books.
2. Employability Skills NCERT.
3. Corporate Employability Skills by Lokesh Mehra, Sanjiva Dubey, S.P.Singh CEGR.

Note: Latest editions of all the suggested books are recommended.