

# JHARKHAND RAI UNIVERSITY



## **Bachelor of Physiotherapy (BPT)**

**SEVENTH SEMESTER SYLLABUS**

**Raja Ulatu | Namkum | Ranchi | Jharkhand**

**Web : [www.jru.edu.in](http://www.jru.edu.in) | Email : [info@jru.edu.in](mailto:info@jru.edu.in)**



**DEPARTMENT OF PHYSIOTHERAPY (BPT)**

**Duration: Four years Six months**

**Academic Year: 2023 – 2027**

**Syllabus**

**COURSE SCHEME**

**BATCH 2023-2027**

**BACHELOR OF PHYSIOTHERAPY**

**CHOICE BASED CREDIT SYSTEM**

**SEMESTER VII**

S.No	CODE	COURSE TITLE	Periods			Evaluation Scheme				Subject Total	Credit
			L	T	P	Assignment	TA	Total	ES E		
1	23A701	Rehabilitation & Physiotherapy Ethics	3	0	0	20	10	30	70	100	3
2	23A702	Physiotherapy in Neurological Conditions - I	4	0	0	20	10	30	70	100	4
3	23A703	Physiotherapy in Sports Conditions - I	4	0	0	20	10	30	70	100	4
4	23A704	Research Methodology & Biostatistics	4	0	0	20	10	30	70	100	4
5	40BPT.352	Soft Skills & Interpersonal Communication	2	0	0	20	10	30	70	100	0
<b>PRACTICAL/SESSIONAL</b>											
1	23A702 P	Physiotherapy in Neurological Conditions - I	0	0	4			30	20	50	2
2	23A703 P	Physiotherapy in Sports Conditions - I	0	0	4			30	20	50	2
3	23A705 P	PT Clinicals - III	0	0	16			30	20	50	8
									<b>TOTAL</b>	<b>650</b>	<b>27</b>



**Program:** Bachelor of Physiotherapy (BPT)  
**Semester:** Seventh  
**Course:** Rehabilitation & Physiotherapy Ethics  
**Course Code:** 23A701

L	T	P	Credits
3	0	0	3

**COURSE LEARNING OBJECTIVE**

- CLO1:** This Subject will help to impart ethical knowledge related to physiotherapy.
- CLO2:** To learn the broader aspect of Community based rehabilitation.
- CLO3:** To learn law and management skills related to hospital and clinic.

**COURSE OUTCOME**

At the end of the course candidate will able to

- CO1: Understand the team approach in rehabilitation of disabled people.
- CO2: Deliver treatment in community and educate people.
- CO3: Work with various national and international organization in rehabilitation.
- CO4: Understand the moral values and meaning of ethics.
- CO5: Develop psychomotor skills for physiotherapist-patient relationship.
- CO6: Develop bed side behavior, respect & maintain patients' confidentiality

**UNIT 1:** Introduction to Rehabilitation: Introduction of Rehabilitation & History, Epidemiology of disability (Impairment, disability, phases of disability process etc.); principles of Rehabilitation & concept of team approach with rolls of each individual participant; organization of Rehabilitation unit; disability prevention evaluation & principles of Rehabilitation Management; role of Physiotherapy in Rehabilitation (Preventive, treatment & restoration); brief outline of Communication disorder & its implications on Rehabilitation process; brief outline of psychosocial & vocational aspects of Rehabilitation; introduction to Occupational therapy; activities of daily living, functional assessment & training for functional independence.

**UNIT 2:** Community Based Rehabilitation: Brief outline of basic community medicine with special reference to community based Rehabilitation; infrastructure and role of CBR; assessment of disability in rural & urban setups; Health care delivery system & preventive measures with specific reference to disabling conditions; Community education program; application of Physiotherapy skills at community level with special reference to the need at rural level;

**UNIT 3:** Role of voluntary Organizations in CBR: Charitable Organizations, Role of Physiotherapy in CBR: Screening for disabilities, Prescribing exercise program, Prescribing and devising low cost locally available assistive aids; Modifications physical and architectural barriers for disabled, Disability prevention, Strategies to improve ADL, Rehabilitation program for various neuro-musculoskeletal and cardiothoracic disabilities.

**UNIT 4:** Voluntary health agencies – National level and International NGO's, Multilateral and Bilateral agencies. International Health Organizations: WHO, UNICEF, UNDP, UNFPA, FAO, ILO, World bank, USAID, SIDA, DANIDA, Rockefeller, Ford foundation, CARE, RED CROSS. National District Level Rehabilitation Program: Primary rehabilitation unit, Regional training

center, District rehabilitation center, Primary Health center, Village rehabilitation worker, Anganwadi worker.

**UNIT 5:** Ethics and Law: Concepts of morality, Ethics & Legality-rules of professional conduct & their Medico-legal & moral implications-The need of Council Act for Physiotherapy; Constitution & Functions of the Indian association of Physical therapy; Functioning of the World Confederation of Physical therapy [W.C.P.T.] & its various branches-Special Interest groups [brief Role of W.H.O.& WCPT;

**UNIT 6 :** Introduction to Evidence Based Practice: Definitions, Evidence Based Physiotherapy Practice; Management studies related to–local health care organization management & structure-planning delivery with quality assurance & funding of service delivery information technology -Time management - career development in Physiotherapy; Administration - principles-based on the Goal & functions - at large hospital set up/domiciliary services/private clinic /academic.

### **Suggested Readings:**

#### **Text Books:**

1. S.Sunder, Textbook of Rehabilitation, Jaypee.

#### **Reference Books:**

1. Sullivan, Schmitz Physical rehabilitation-assessment & treatment, F.A Davis.

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



**Program:** Bachelor of Physiotherapy (BPT)  
**Semester:** Seventh  
**Course:** Physiotherapy in Neurological Conditions - I  
**Course Code:** 23A702

L	T	P	Credits
4	0	0	4

**COURSE LEARNING OBJECTIVE**

- CLO1:** The student should be able to identify disabilities due to neurological dysfunction and demonstrations.
- CLO2:** Plan and set treatment goals.
- CLO3:** Apply the skills gained in exercise therapy and electrotherapy in these clinical situations to restore neurological function.

**COURSE OUTCOME**

At the end of the course candidate will able to

- CO1: Recall neuroanatomy and physiology.
- CO2: Assess neurological conditions.
- CO3: Differentiate upper and lower motor neuron disease.
- CO4: Apply different approaches like Bobath’s, Rood’s, Vojta, motor relearning, Brunnstorm movement therapy, Sensory integration therapy and reeducate and retrain neurological patient.
- CO5: Treat Spinal cord injury patient.
- CO6: Distinguish different speech disorder.

**UNIT 1. Review of basic Neuro** – Anatomy and Physiology. Physiotherapy evaluation of a neurological patient, electro diagnostic procedures,

**UNIT 2: Interpretations and prognosis** in different neurological conditions, Upper and Lower motor neuron lesions.

**UNIT 3: Principles of physiotherapy programs**, reeducation and retraining techniques in neurological conditions, approaches like: Bobath’s / neuro developmental therapy, Rood’s approach,

**UNIT 4:** PNF, Vojta techniques, biofeedback, Brunnstorm movement therapy, Motor Relearning programming, sensory integration therapy. Disturbance of speech and aphasia,

**UNIT 5. Spinal cord injury:** review of anatomy and physiology, Physiotherapy Assessment of Spinal cord injury.

**UNIT 6: Principles of Physiotherapy** at various stages of Spinal cord injury Rehabilitation goals and ADL training.

**Suggested Readings:**

**Text Book:**

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
6. Neurological Rehabilitation By Darcy Umphred
7. " Right in the middle of the stroke " By Patricia Davis

**Reference Book:**

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:** Seventh  
**Course:** Physiotherapy in Sports Conditions – 1  
**Course Code:** 23A703

L	T	P	Credits
4	0	0	4

### **COURSE LEARNING OBJECTIVE**

- CLO1:** The student will be able to conduct a safe and effective treatment of patients with orthopedic and sports conditions.
- CLO2:** This subject will help students to Pre exercise evaluation.
- CLO3:** Will help students to identify different sports injuries.

### **COURSE OUTCOME**

At the end of the course candidate will able to

- CO1:** Do pre exercise assessment like muscle strength, endurance, flexibility, fitness. General guidelines about diet and nutrition.
- CO2:** Explain the effect of exercise in different system.
- CO3:** Treat different sports injuries of spine, head neck and lower limb.

**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: Physiological effects of exercise on body systems** - Muscular system, Endocrine system, Cardio-respiratory system, Nervous system

**UNIT 3: Sports injuries - Spine** – PIVD, Kissing spine, cervical whiplash injuries, facet joint

**UNIT 4: Sports injuries** - Hip – muscle strain, piriformis syndrome, ITB syndrome, osteitis pubis,

**UNIT 5: Sports injuries** - Knee – menisci, cruciate, collateral, osteochondritis, chondromalacia patellae, biceps femoris tendonitis, swimmers knee, patello-femoral pain syndrome,

**UNIT 6: Sports injuries** - Leg & ankle – shin splint, achillis tendonitis & rupture, TA bursitis, ankle sprain, plantar fasciitis, turf toe syndrome, Head & face – maxillofacial injuries, helmet compression syndrome.

**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:** Seventh  
**Course:** Research Methodology & Biostatistics  
**Course Code:** 23A704

L	T	P	Credits
4	0	0	4

### **COURSE LEARNING OBJECTIVE**

- CLO1:** The student will learn about frame a research project using the principles of research methodology and biostatistics.  
**CLO2:** The student will learn about research methods.  
**CLO3:** Will Gain knowledge about biostatistics.  
**CLO4:** Will learn how to conduct research work/ projects.

### **COURSE OUTCOME**

At the end of the course candidate will able to

- CO1: Understand the importance of clinical research practice.  
CO2: Develop the ability to apply the methods while working on a research project work.  
CO3: Describe the appropriate statistical methods required for a particular research design.  
CO4: Choose the appropriate research design and develop appropriate research hypothesis for a research project.  
CO5: Develop a appropriate framework for research studies.

**UNIT 1- Introduction to research-** Importance of research in clinical practice, scientific approach, characteristics, purposes, and limitations. Ethical issues in research, elements of informed consent, and Structure of a research proposal.

**UNIT 2- Research Methodology-** Research question including literature review. Measurement: Principles of measurement, reliability and validity.

**UNIT 3- Research design-** Experimental sampling and design, and Descriptive research.

**UNIT 4- Introduction to Biostatistics:** Meaning, definition, characteristics of statistics. Importance of the study of statistics, Branches of statistics, Statistics and health science, Parameters and Estimates, Variables and their types, Measurement scales.

**UNIT 5- Basic principles** of graphical representation, Measures of Central Tendency, Probability and Standard Distributions: Meaning of probability of standard distribution, the binominal distribution, the normal distribution, Divergence from normality – skewness, kurtosis.

**UNIT 6- Biostatistical tests-** Descriptive statistics, Comparison of means, T-tests , Analysis of Variance, Multiple comparisons, Non-parametric statistics, Correlation, Sampling, Testing of Hypotheses , Level of significance, Degrees of freedom.



**Suggested Readings:**

**Text Books:**

1. Handbook of Research in Physical Therapy. CE Bork
2. Physical Therapy Research: Principles and Application. E Domholdt

**Reference Book:**

1. Research Methodology for Physical Therapists. C Hicks

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



**Program:** Bachelor of Physiotherapy (BPT)  
**Semester:** Seventh  
**Course:** Soft Skills & Interpersonal Communication  
**Course Code:** 40BPT.352

L	T	P	Credits
2	0	0	0

### **COURSE LEARNING OBJECTIVE**

**CLO1:** To develop inter personal skills and be an effective goal oriented team player.

**CLO2:** To develop professionals with idealistic, practical and moral values.

**CLO3:** To develop communication and problem solving skills.

**CLO4:** To re-engineer attitude and understand its influence on behavior.

### **Course Outcome:**

CO1: Effectively communicate through verbal/oral communication and improve the listening Skills.

CO2: Write precise briefs or reports and technical documents.

CO3: Actively participate in group discussion / meetings / interviews and prepare & deliver Presentations.

CO4: Become more effective individual through goal/target setting, self motivation and practicing creative thinking.

CO5: Function effectively in multi-disciplinary and heterogeneous teams through the knowledge of team work, Inter-personal relationships, conflict management and leadership quality.

### **Module 1: Self Analysis**

- Introduction to Soft Skills and Hard Skills, Importance of Soft Skills, Attributes regarded as Soft Skills, Identifying and improving your Soft Skills, Art of Negotiation
- Stage Fright
- Self Discovery, Importance of knowing oneself, Process of knowing oneself, SWOT Analysis, Benefits of SWOT analysis, SWOT Analysis , Self Esteem, Ways to improve Self Esteem, Aristotle on Self-Gender and Self, Feminist Self, Escaping the Self
- Self Development
- Developing Positive Attitude and Self Confidence, Forming Values

### **Module II: Goal Setting and Career Planning**

- Wish List, SMART Goals, Blue print for Success, Short term, Long Term, Life Time Goals
- Art of Listening, Art of Reading, Art of Speaking, Art of Writing, writing E-mail
- Motivation Skills, Personality Development, Improving Perception
- Time Management, Stress Management, Conflict Handling
- Problem Solving and Decision Making, adaptability.



### **Module III: Effective Communication**

- Communication Skills, Concept/Meaning, Definition
- Types of Communication, Process of Communication, stages of Communication
- Difference between General and Technical Communication
- Barriers to Communication
- Communication Network
- 7 C's of Communication
- Verbal & non verbal Communication

### **Module IV: Interpersonal Skills**

- Interpersonal Communication, Basic Skill set
- Effective Interpersonal Communication in Organization
- Team Building, Communicating in a Team
- Intercultural Communication
- Leadership traits through Communication
- Communicating assertively
- Presentation Skills

### **Suggested Readings:**

1. Covey Sean Seven Habits of Highly Effective Teens, New York, Fireside Publishers, 1998.
2. Carnegie Dale, How to win Friends and Influence People, New York: Simon & Schuster, 1998.
3. Thomas A Harris, I am ok, You are ok, New York-Harper and Row, 1972
4. Dr. K. Alex Soft Skills, S. Chand

**Program:** Bachelor of Physiotherapy (BPT)  
**Semester:** Seventh  
**Course:** Physiotherapy in Neurological Conditions - I  
**Course Code:** 23A702P

L	T	P	Credits
0	0	4	2

### **COURSE LEARNING OBJECTIVE**

**CLO1:** This subject will help to integrate the knowledge neurology.

**CLO2:** Learn about the neurosurgery with skills to apply these in clinical situations of dysfunction.

**CLO3:** Learn how to handle the neurological pathology condition.

### **COURSE OUTCOME**

At the end of the course candidate will able to

CO1: Do neurological assessment including higher mental function.

CO2: Perform various clinical test.

CO3: Assess neurological conditions.

1. Basic approach and general examination of neurological patient
2. Assessment, Clinical examination and tests of the following:
  - Consciousness
  - Memory
  - Speech and language
  - Cranial nerve I-XII
  - Motor system
  - Movement disorders
  - Co-ordination and gait
  - Sensory system
  - Autonomic nervous system
  - Neurovascular system
3. Clinical examination of all neurological problems.

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

**Program:** Bachelor of Physiotherapy (BPT)  
**Semester:** Seventh  
**Course:** Physiotherapy in Sports Conditions - I  
**Course Code:** 23A703P

L	T	P	Credits
0	0	4	2

### **COURSE LEARNING OBJECTIVE**

- CLO1:** Learn how to take History from patient.  
**CLO2:** Gain knowledge on Assessment.  
**CLO3:** Learn about Clinical diagnosis based on the presentations and investigations.  
**CLO4:** Physiotherapy management of the various disorders & surgeries.

### **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:** Seventh

**Course:** PT Clinicals – III

**Course Code:** 23A705P

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. The students will be posted in different departments in various setups. According to their planned curriculum.
2. Every student will be asked to maintain a separate logbook consisting of minimum thirty case histories.

Practical exam shall be conducted and student will be assessed according to:-

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

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