



TILAK MAHARASHTRA VIDYAPEETH

Declared as Deemed to be University Under Section 3 of UGC Act 1956
Reaccredited by NAAC with 'B++' Grade
ISO 21001 : 2018 Certified



PhD Entrance Test

A.Y-2026-27

SUBJECTS: PHYSIOTHERAPY

1. ORTHOPAEDIC PHYSIOTHERAPY

Module	Topics
Module 1: Musculoskeletal Sciences	Advanced Functional Anatomy Clinical Biomechanics
Module 2: Pain Sciences	Pain Neurophysiology Pain Assessment & Management
Module 3: Clinical Assessment	Differential Diagnosis Red Flags Imaging Interpretation
Module 4: Advanced Therapeutics	Manual Therapy (Mulligan, Maitland, Kaltenborn, McKenzie) Myofascial Release Dry Needling Taping Arthroplasty Rehabilitation Spine Disorders Osteoporosis Sports Rehabilitation Oncology Rehabilitation Regenerative Rehabilitation
Module 7: Recent Advances	AI in Musculoskeletal Rehabilitation Wearables

2. NEUROPHYSIOTHERAPY

Module	Topics
Module 1: Advanced Neurosciences	Functional Neuroanatomy Motor Control Motor Learning Neuroplasticity
Module 2: Neurological Assessment	Advanced Gait Analysis Balance Assessment Functional Neuroimaging Instrumented Assessment
Module 3: Adult Neurorehabilitation	Stroke Parkinsonism Multiple Sclerosis SCI (Spinal Cord Injury) TBI (Traumatic Brain Injury) Peripheral Neuropathies
Module 4: Pediatric Neurorehabilitation	Cerebral Palsy Developmental Disorders Genetic Disorders Neuromuscular Diseases
Module 5: Advanced Interventions	Bobath PNF (Proprioceptive Neuromuscular Facilitation) Motor Relearning CIMT (Constraint-Induced Movement Therapy) FES (Functional Electrical Stimulation)

Module	Topics
	Robotics Virtual Reality
Module 6: Emerging Technologies	Brain-Computer Interface Exoskeletons AI-based Neurorehabilitation Teleneurorehabilitation

3. CARDIORESPIRATORY SCIENCES

Module	Topics
Module 1: Advanced Cardiovascular Sciences	Exercise Physiology Cardiopulmonary Hemodynamics
Module 2: Pulmonary Sciences	Pulmonary Function Testing Respiratory Mechanics Gas Exchange Exercise Limitation
Module 3: Clinical Assessment	CPET (Cardiopulmonary Exercise Testing) ECG Interpretation Functional Capacity Tests ICU Monitoring
Module 4: Critical Care	Mechanical Ventilation Airway Clearance Early Mobilization ICU-acquired Weakness
Module 5: Rehabilitation	Cardiac Rehabilitation Pulmonary Rehabilitation

Module	Topics
	Post-COVID Rehabilitation Oncology Rehabilitation
Module 6: Emerging Trends	Wearable Monitoring Remote Monitoring Tele-ICU Digital Rehabilitation

4. COMMUNITY PHYSIOTHERAPY

Module	Topics
Module 1: Public Health	Epidemiology Health Promotion National Health Programs
Module 2: Community-Based Rehabilitation	WHO CBR Matrix Disability Inclusion ICF Framework Rural Rehabilitation
Module 3: Occupational Health	Ergonomics Work-related Musculoskeletal Disorders Industrial Rehabilitation
Module 4: Geriatric Physiotherapy	Healthy Ageing Falls Prevention Frailty Dementia Care
Module 5: Women's Health	Pelvic Floor Rehabilitation Pregnancy Exercise

Module	Topics
	Menopause Breast Cancer Rehabilitation
Module 6: School & Sports Health	School Screening Adolescent Health Physical Activity Promotion Injury Prevention
Module 7: Disaster & Digital Community Rehab	Disaster Management Pandemic Rehabilitation Tele-rehabilitation Community Program Evaluation Health Economics

1. *Physical Rehabilitation* – Susan B. O'Sullivan & Thomas J. Schmitz
2. *Therapeutic Exercise: Foundations and Techniques* – Carolyn Kisner & Lynn Allen Colby
3. *Guide to Physical Therapist Practice* – American Physical Therapy Association (APTA)
4. *Orthopaedic Physical Therapy* – Robert Donatelli
5. *Cash's Textbook of Orthopaedics and Rheumatology for Physiotherapists*
6. *Clinical Sports Medicine* – Brukner & Khan
7. *Maitland's Vertebral Manipulation* – Elly Hengeveld & Kevin Banks
8. *Guide to Evidence-Based Physical Therapist Practice* – Dianne V. Jewell
9. *Research Methods in Health* – Ann Bowling
10. *Essentials of Medical Statistics* – Betty R. Kirkwood
11. *Exercise Physiology* – McArdle, Katch & Katch
12. *Clinical Biomechanics* – Nordin & Frankel
13. *Neurological Rehabilitation* – Darcy Umphred
14. *Motor Control: Translating Research into Clinical Practice* – Anne Shumway-Cook & Marjorie Woollacott
15. *Clinical Neurodynamics* – Michael Shacklock
16. *Cardiovascular and Pulmonary Physical Therapy* – Donna Frownfelter & Elizabeth Dean
17. *ACSM's Guidelines for Exercise Testing and Prescription*