

## Syllabus for Physiotherapy – MRB

### 1.PSYCHOLOGY

Definition of psychology, Heredity and environment, Development and growth behavior, Intelligence, Motivation, Emotions, Personality, Learning, Thinking, Frustration Sensation, attention and perception, Leadership roles.

### SOCIOLOGY

Sociology and health, Socialization, Social groups, family, Culture, Caste system, Social change, Social control, Social problems of the disabled, Social security.

### 2.ANATOMY

#### UPPERLIMB

Osteology, Arthrology, Myology, Neurology, Angiology, Axilla, Scapulo-thoracic rhythm, Cubital fossa

#### LOWERLIMB

Osteology, Arthrology, Myology, Neurology, Angiology, Thorax and Abdomen, Head & Neck, Pelvis.

### 3. APPLIED PHYSIOLOGY

Cell, Skin, Blood, Cardiovascular, Respiration, Digestion, Excretion, Endocrine, Reproduction, Nervous- Systems, Special Sense Muscle The Heart & Circulation, Nervous System & Muscles, Respiration.

### 4. BASIC & APPLIED PHYSICS FOR PHYSIOTHERAPY

Mechanics, Currents

### 5.GENERALMEDICINE / GENERALSURGERY/PAEDIATRICS / GERIATRICS

#### GENERALMEDICINE

Infections, Haematology, Respiratory System, Cardio-Vascular System, Bone, Joint and Connective Tissue Disorders, Renal Diseases, Metabolic Diseases, Neurology.

#### GENERALSURGERY

Describe abdominal surgical incisions, Outline the incision and its complications of Appendicectomy, Mastectomy, Hysterectomy, Colostomy, Hernioraphy, Cholecystectomy, Ileostomy, Thyroidectomy, Adrenalectomy, Prostatectomy. Define burns, Outline the principles of tendon transfers, Skin graft/flap Breast reconstruction, Hypertrophic scar / keloid management.

**PAEDIATRICS :** Describe growth and development of a child , High risk pregnancy , Describe community programmes – immunization schedule ; Cerebral palsy, Muscular dystrophy, Spina bifida, meningomyelocele Still disease; Normal diet of newborn and Lung infections.

## **GERIATRICS**

Theories of Aging, Diseases commonly encountered in elderly population

## **6. BIO- MECHANICS AND APPLIED ANATOMY & KINESIOLOGY**

Mechanics, Joint Structure and Function, Muscle Structure And Function The Vertebral Column, Shoulder Complex, The Elbow Complex, The Wrist And Hand Complex, The Hip Complex, The Knee Complex, The Ankle And Foot Complex, Posture, Gait.

## **7. EXERCISE THERAPY- I**

### **INTRODUCTION TO EXERCISE THERAPY & APPLIED BIO-MECHANICS**

Introduction, Effect of therapeutic exercise, types of skeletal muscle fibers. Classification of muscle, Based on arrangement of fascicule, Types of muscular contraction, Group muscle action, Range of muscle work.

**APPLIED BIO-MECHANICS** ; Anatomical movement, Range of motion (ROM), Kinematic chain- Types-Open and Closed chain Active and Passive insufficiency, Type of motion, Force Composition, Parallelogram of force, Centre of gravity, Line of gravity, Equilibrium-Stable, Unstable, Neutral Fixed and Movable, Spring, Levers, Axis Planes- Newton laws of motion, Definition of speed, Velocity, Work, Energy, Power, Acceleration, Momentum, Friction, Inertia, Normal pelvic tilt, anterior pelvic tilt, posterior pelvic tilt, Lateral tilt, muscles, Responsible for alternation and corrective measures. Starting position and derived position, active and passive movement, Relaxation, Mat Activities & Functional Re-Education, Hydrotherapy Posture, Gait, Human, Locomotion, Walking Aids/ Crutch Walking, Types of walking aids, Crutches, Muscle Grading/Manual Muscle Testing, Muscle Strengthening/Re-Education Of Muscles, resisted exercise, joint mobilization Principle, Methods of peripheral joint mobilization, Muscle relaxation techniques, Muscle stretching techniques.

## **8. EXERCISE THERAPY- II**

History of massage, Definition of massage, Mechanical points to be considered, Physiological effects of massage on various body systems.

**MASSAGE TECHNIQUE:** Techniques Used For Various Parts Of Body, Sports Massage, Therapeutic Application Of Massage, Stretching, Goniometry, Suspension Therapy, Balance Exercises, Co-Ordination Exercises, Chest Physiotherapy, Breathing Exercises. Describe the Complications to Patients Due To Prolonged Bed Rest/ Demonstration, Maintenance Exercise For Patients On Prolonged Bed, Rest, Group, Exercise, Traction, Proprioceptive Neuromuscular Facilitation (PNF)



## **9. MICROBIOLOGY**

Disinfection and antiseptic, Sterilization and asepsis, Allergy & hypersensitivity, Immunology, Infection, Bacteriology, Outline the bacteria causing the following diseases, Viruses, Outline the virus causing the diseases.

## **PATHOLOGY**

Introduction, Inflammation and repair, Circulatory disturbance, Growth disturbance, Specific pathology.

## **10. ELECTROTHERAPY- I**

Low Frequency and Medium Frequency Electricity, Basic Concepts in Electrical Stimulation, Therapeutic Current, Faradic Current, Interrupted Direct Current, Technique of application of IGC, Selection Of Current, Electrodiagnosis, Bio-Feedback, Tens, Iontophoresis, Interferential Current.

## **11. ELECTROTHERAPY- II**

High Frequency and Actinotherapy, Short Wave Diathermy, Micro Wave Diathermy, Actinotherapy, Infrared Radiations, Ultra Violet Radiation, Laser, Superficial Heat Modalities, Cryotherapy

## **12. COMMUNITY MEDICINE**

Outline the natural history of diseases and the influence of social, economic and cultural aspects of health and diseases.

Outline the various measures of prevention and methods of intervention especially for diseases with disability.

Outline the natural care delivery system and the public health administration system at central and state government level- primary healthcare, school health, health team at district hospitals and PHC, voluntary and international agencies in health care.

Outline selective national health schemes.

Define occupational health and list methods of prevention of occupational hazards.

Outline the Employees State Insurance scheme and its benefit

Describe the social security measures for protection from occupational hazards, Accidents, diseases and workman compensation act.

Define community based rehabilitation, institution based rehabilitation. Describe the advantages and disadvantages of institution based and community based Rehabilitation.

Describe the following communicable diseases with reference to water reservoir, Mode of transmission, route of entry and levels of prevention

Describe the epidemiology of Rheumatic heart disease, cancer, chronic

Degenerative disease, cerebro-vascular accident

Outline the influence of nutritional factors such as protein energy malnutrition, Anemia, vitamin deficiency and minerals on disability, nutritional programmes, Balanced diet, nutritional requirement and source, food adulteration.

List the principles of health education, methods of communication and role of Health education in rehabilitation service-AV aids, planning a health education Programme.

Define the role of community leaders and health professional in health education.

Outline the role of international health agencies in rehabilitation of the disabled.

### **13. CLINICAL ORTHOPAEDICS FOR PHYSIOTHERAPY**

Introduction To Orthopaedics, Principles Of Operative Treatment, Soft Tissue Lesions

Fractures And Dislocations, Upper Limb Fractures, Lower Limb Fractures, Spinal Fractures

Dislocations, Amputations, Bone And Joint Infections Bone And Joint Tumors, Chronic Arthritis, Low Back Pain, Spinal Deformities, Poliomyelitis, Congenital Deformities, Peripheral Nerve Injuries, Hand Injuries, Leprosy.

### **14. CLINICAL NEUROLOGY FOR PHYSIOTHERAPY**

Neuroanatomy, Neurophysiology, Assessment, Clinical Features And Management

### **15. CLINICAL CARDIO-RESPIRATORY DISEASES FOR PHYSIOTHERAPY**

Anatomy and Physiology, Respiratory System, Cardio vascular System, Cardio-Vascular System, Respiratory System, Physiotherapy For Thoracic Surgeries

### **16. BIO-PHYSICS**

Physical principles, Effects of Current , Electricity, Electrical Supply Various agents

### **17. PT IN ORTHOPEDIC CONDITIONS**

Assessment of Joints & Spine, Fracture and Dislocation, Regional Conditions

### **18. PT IN NEUROLOGICAL SCIENCES**

Neuro-anatomy and Neurophysiology, Principles Of Assessment principles of Treatment, Physiotherapy Management Of Neurological Conditions In Adult, Physiotherapy Management Of Neurological Conditions In Children.



## **19. PT IN CARDIO-RESPIRATORY CONDITIONS**

Anatomy Physiology, Physiotherapy Assessment, Pt Treatment, Pulmonary Rehabilitation, Cardiac Rehabilitation, Physiotherapy in general surgery, Physiotherapy in Intensive Care Unit, Physiotherapy for ventilator dependent patient, Physiotherapy for peripheral vascular diseases, Advanced Physiotherapeutics, Muscle Energy Techniques, Trigger Point Therapy/Myofascial Release Therapy, Fascial Manipulation, Kinesio Taping, Cupping Therapy, Manual Therapy, Joint Mobilization Technique, Positional Release Technique, Physiotherapy Instrument Mobilisation (Pim)/ Instrument Assisted Soft Tissue Mobilisation (Iasm)/Graston Technique, Neurodynamics/Neural Mobilisation Constrained Induce Movement Therapy [Cimt], Motor Relearning, Programme.. Neuro developmental Therapy [Ndt], Vojta Therapy, Sensory-motor Approach/ Rood Approach, Sensory Integration Therapy, Proprioceptive Neuromuscular Facilitation (Pnf), Vestibular Rehabilitation/ Canalith Repositioning Procedure, Progressive Resistance Training [Pre], Mirror Therapy/Graded Motor Imagery, Virtual Rehabilitation and Robotic Therapy, Craniosacral Therapy, Aquatic Therapy/Hydrotherapy, Pilates, References.

## **20. REHABILITATION MEDICINE**

Introduction, Therapeutic Techniques, Communication Problems, Behavioral Problems, Pain, Evaluation Of Physical Dysfunction, Orthotic Devices, Prosthetic Devices, Mobility Aids, Pre – Vocational Evaluation, Architectural Barriers, Disability Evaluation, Social Implications, Community Based Rehabilitation.

### **Note:**

**The syllabus for post of Physiotherapist is as prescribed for the BPT Course under the Tamilnadu Dr.MGR Medical University, Guindy, Chennai – 32. The syllabus synopsis is provided here and for a detailed syllabus, kindly refer the website**

<https://www.tnmgrmu.ac.in/images/Syllabus-and-curriculum/Allied-Health-Sciences/bpt%20syllabus%20new-08082017.pdf>