

SARDAR BHAGWAN SINGH UNIVERSITY , BALAWALA,
DEHRADUN

Syllabus for Ph. D. Entrance Test in Physiotherapy

I. Anatomy

1. General Anatomy –Muscles and other soft tissues, Bones and Joints, Nerves & Blood Vessels.
2. Regional Anatomy: Introduction to Upper limbs, Lower Limb, Vertebral Column, Head, Neck and Brain.

II. Physiology

1. Cardiovascular System- Structure and Properties of Heart, Cardiac Cycle. The Regulation of Heart's Performance. Cardiac Output, the Arterial Blood Pressure. Outline of ECG And Applied Physiology.
2. Respiratory System-Functional Anatomy, Pulmonary Ventilation, External Respiration, Internal Respiration, Control of Ventilation. Regulation of the Breathing, Pulmonary Function Test and Applied Physiology.
3. Nervous System- Elementary neuroanatomy, Neurons and Neuroglia, Physiology Of Nerve Impulse, Spinal Cord Cerebral Cortex, Pyramidal And Extrapyramidal System. The Cerebellum, Autonomic Nervous System.
4. Exercise Physiology - Energy Production, Expenditure and Transfer. Exercise Performance and Functional Exercise Testing. Aerobic and Anaerobic Exercises and Fatigue.

III. Exercise Therapy

1. Manual Muscle Testing and Goniometry Assessment- Revision of Assessment techniques like MMT and core evaluation, Goniometry.
2. Soft Tissue Mobilizations and Core Exercises- Types of exercises. Stretching, Mobilization, Core exercises Soft tissue manipulation.
3. Muscle and Functional Re-education- Re-education, Strengthening, Balance, and Coordination exercise.

4. Gait Analysis and Postural Assessment- Gait analysis and training (both normal and pathological gait), Posture Analysis, Ideal Posture.
5. Miscellaneous- Relaxation Techniques, Proprioceptive neuromuscular facilitation, Traction, Hydrotherapy

IV. Electro Therapy

1. Low Frequency Currents- Nerve & Muscle Stimulator, Tens.
2. Medium Frequency Currents and Russian Currents-Di-Dynamics, Russian Currents, Interferential Therapy.
3. High Frequency Currents- Short Wave Diathermy, Microwave Diathermy, Ultrasound Therapy.
4. Dry And Moist Heat Modalities
5. Miscellaneous- Cryotherapy, Biofeedback, UVR, Laser, Shock Wave and Long Wave Therapies. Nerve Conduction Studies and EMG.

V. Biomechanics

1. Biomechanics and Pathomechanics of Upper Limb, Lower Limb, Vertebral Column, Posture, and Gait.

VI. PT Management of Common Conditions

1. Medical Conditions- Review of the Pathology of Conditions Such As Edema, Lymphedema, Tetanus, Rickets, Diabetes, Obesity, Skin Conditions. Mechanism of Injury and PT Treatment of Common Sports Injuries. Nutrition in Sports.
2. Surgical Conditions - Pre and Post-Operative P.T. Management For Common Abdominal Incisions & Common Surgeries, Appendectomy, Gallbladder Surgeries, Hernia, Splenectomy, Nephrectomy, Burns, And Wounds.
3. Obstetrics and Gynecological Conditions - Ante Natal and Post Natal Physiotherapy. Painless Delivery, Complication Of Pregnancy, PID And Salpingitis, Incontinence And Bladder Conditions, Prolapsed Rectum And Uterus, Radical Mastectomy.
4. Geriatrics- The Examination & Assessment of Geriatric Conditions.

VII. Manual-Therapy

1. Concepts of Cyriax, McKenzie, Muscle Energy Technique, Positional Release Therapy, Myofascial Release, Maitland, Mulligan, Neural Mobilisation, and Pilates.