

# **RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER**

## **SYLLABUS OF COMPETITIVE EXAMINATION FOR THE POST OF ASSISTANT PROFESSOR (Broad Speciality) PHYSICAL MEDICINE & REHABILITATION MEDICAL EDUCATION DEPARTMENT**

### **Unit : I**

- Basic Anatomy and Physiology of the Musculoskeletal (including Biomechanics), Urogenital, Cardio - pulmonary and nervous systems, etc.
- Basic Pathological processes causing diseases and disabilities, healing etc.
- Basic principles of Pharmacology as applied to the conditions encountered in Physical Medicine and Rehabilitation.
- Philosophy, history, scope and need of Physical Medicine and Rehabilitation.
- Basic concepts in Physical Medicine and Rehabilitation - definitions, rehabilitation team, team members, scope, role and responsibilities of different members etc.
- Organisation and Administration of Physical Medicine and Rehabilitation Services.
- Disability process. Impairment, disability, International Classifications.
- Disability Prevention- levels and examples.

### **Unit : II**

- Basics of biochemical aspects of Calcium and Vitamin-D metabolism, osteoporosis, diabetes mellitus etc.
- Basic principles of diagnostic modalities as applied to Physical Medicine and Rehabilitation (Laboratory, radiological etc.)
- Principles of evaluation and rehabilitation management of social problems.
- Principles of evaluation and rehabilitation management of vocational problems.
- Gait Analysis - Terminology, types, Clinical Applications.
- Electrodiagnostic Medicine - basic principles, clinical methods, interpretation etc.
- Outcome Measures in Physical Medicine and Rehabilitation.
- Impairment Rating and Disability Evaluation.
- Community based Rehabilitation.
- Rehabilitation Nursing, Principal and management.

### **Unit : III**

- Therapeutic exercises - principles, types, indications, contraindications.
- Physical agents/modalities - principles, types, indications, contra-indications, precautions.
- Manipulation, traction, massage - principles, types, indications, contra-indications, precautions.
- Electrical stimulation-principles, types, indications, contra-indications, precautions.

### **Unit : IV**

- Principles and scope of Occupational Therapy.
- Rationale of A.D.L. (Activities of Daily Living) in various conditions.
- Integrative Medicine and Physical Medicine and Rehabilitation.
- Mobility aids, wheelchairs and seating systems.

### **Unit : V**

- Upper limb orthotic devices including splints– principles, types, materials and indications.
- Lower limb orthotic devices including footwear modifications –principles, types, materials and indications.
- Spinal orthoses – principles, types, materials and indications.
- Upper limb prosthetics and amputee rehabilitation.
- Lower limb prosthetics and amputee rehabilitation.

### **Unit : VI**

- Low back pain and Physical Medicine and Rehabilitation.
- Neck pain and shoulder pain.
- Various musculoskeletal disorders, evaluation, diagnosis, management and rehabilitation in Physical Medicine and Rehabilitation.
- Pain (acute/chronic), pathophysiology, pathway, evaluation, management and Rehabilitation.

### **Unit : VII**

- Holistic management and Rehabilitation of persons suffering from: Arthritis, including Rheumatoid Arthritis, Osteoarthritis, Ankylosing Spondylitis etc. Spinal deformity, Osteoporosis, Burns Injury, Haemophilia.

### **Unit : VIII**

- Spinal Cord Injury (traumatic and non-traumatic), Etiology, Pathophysiology, Mechanism of injury, Radiology imaging, Evaluation, Various acute/chronic complications and their management/Rehab. Management Rehabilitation.

**Unit : IX**

- Various types of wounds, their management and rehabilitations.
- Rehabilitation of persons with: - Obesity, dyslipidemia etc.  
-After arthroplasty, after POP cast, fracture treatment, surgical intervention.
- Principles of Sports Medicine, diagnosis, evaluation, prevention, and management of sports injuries.
- Basic principles of rehabilitative surgeries such as deformity correction in poliomyelitis, cerebral palsy, clubfoot, contractures, revision of amputation stump, pressure sore, tendon transfers etc.

**Unit : X**

- Various joint and soft tissue injections techniques (with or without image guided) in Physical medicine and Rehabilitations, Indications/contraindications Principles, Procedures, Advantage/disadvantage, Rationale of procedure.
- Various nerve blocks and myoneural blocks in Rehabilitation Medicine.
- Botulinum injection in Rehabilitation Medicine.
- Various plaster techniques in PMR.

**Unit : XI**

- Holistic Rehabilitation of persons suffering from: Plexus or Nerve Injury, Traumatic Brain Injury, Stroke, Parkinsonism, Multiple sclerosis, Ataxia, and other movement disorders, neurodegenerative disorders, Epilepsy, Autonomic disorders etc., Neuropathy, Bell's Palsy etc., Hansen's Disease, Diseases of Muscles e.g. myopathy, motor-neuron disease, myasthenia gravis etc., Cerebral Palsy, Spasticity, Poliomyelitis and its sequelae, Cardiovascular Disease e.g. CAD, MI, CABG Surgery, Angioplasty, Cardiac transplantation etc., Peripheral vascular disease, Pulmonary Disease e.g. COPD, Bronchiectasis, Cystic fibrosis etc., Obstetrics and gynaecological disorders, Cancer, Swallowing disorder, Bladder dysfunction, Bowel dysfunction, Vertigo, HIV/AIDS, Chronic Pain, Neural tube defects like meningomyelocele and hydrocephalus etc.

**Unit : XII**

- Pediatric Rehabilitation including children with autism spectrum disorders, learning disabilities, multiple disabilities etc.
- Geriatric Rehabilitation.
- Principles of evaluation and rehabilitation management of persons with: Visual impairment, Mental retardation, Hearing/speech impairment, Psychological problems or mental illness.

**Unit : XIII**

- Medical/Surgical Emergencies in Physical Medicine and Rehabilitation
- Sexuality and Disability
- Rehabilitation of persons: After Organ Transplantation, In ICU setting.

**Unit : XIV**

- Evidence-based Medicine and Physical Medicine and Rehabilitation.
- Legislation in relations to disability- National and International.
- Functional evaluation, Impairment rating, disability evaluation and certification including guidelines for these.
- Schemes and Benefits extended to persons with disabilities by the Government.

**Unit : XV**

- Barrier-free Environment and access related issues.
- Computers in Physical Medicine and Rehabilitation.
- Assistive Technology related to Physical Medicine and Rehabilitation.
- Recent Advances related to Physical Medicine and Rehabilitation.
- Ethical aspects in rehabilitation.
- Research methodology

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**Pattern of Question Papers:**

1. **Objective Type Paper**
2. **Maximum Marks: 150**
3. **Number of Questions: 150**
4. **Duration of Paper : 2.30 Hours**
5. **All Questions carry equal marks**
6. **There will be Negative Marking**  
(For every wrong answer one-third of the marks prescribed for that Particular question shall be deducted.)