

RAJASTHAN PUBLIC SERVICE COMMISSION, AJMER

SYLLABUS OF COMPETITIVE EXAMINATION FOR THE POST OF ASSISTANT PROFESSOR (Super Speciality) PAEDIATRIC NEUROLOGY MEDICAL EDUCATION DEPARTMENT

(I) Development of the Infant and Young Child-

- (a) Anatomy of Neurodevelopment.
- (b) Physiology of Neurodevelopment.
- (c) Assessment of normal development.
- (d) Variations of the normal development.
- (e) Early markers of Cerebral Palsy etc.
- (f) Approach to a child with developmental delay, Visual, hearing, taste and smell disorders.

(II) CNS Malformations and their Management-

- (a) Normal anatomy of the CNS and prenatal diagnosis of structural brain anomalies.
- (b) Common CNS malformations, hydrocephalus and arachnoid cyst.
- (c) Surgical management of CNS malformations.

(III) Seizure disorders in Childhood-

- (a) Seizures and non-seizures.
- (b) Febrile seizures.
- (c) Classification /evaluation and management of epilepsy.
- (d) Genetics in epilepsy and Epileptic syndromes.
- (e) Status epilepticus.
- (f) Intractable epilepsy.
- (g) Surgical management of seizure disorders.

(IV) Infections of the CNS-

- (a) Acute pyogenic meningitis.
- (b) Neonatal meningitis.
- (c) Chronic meningitis.
- (d) Brain abscess.
- (e) Acute encephalitis.
- (f) Cerebral malaria.
- (g) Acute febrile encephalopathy.
- (h) Neurocysticercosis.
- (i) HIV encephalopathy.
- (j) SSPE
- (k) Congenital infections.
- (l) Corona virus related paediatric neurological disorders.
- (m) Laboratory diagnosis of CNS infections.

(V) Autoimmune and Post Infectious Diseases-

- (a) Primary demyelinating diseases of the CNS.
- (b) ADEM, optic neuritis, acute transverse myelitis, Multiple sclerosis and NMO Spectrum disorders.
- (c) Immunologically mediated diseases affecting the CNS gray matter, peripheral nervous system.
- (d) Systemic vasculitides with nervous system manifestations.

(VI) Neurodegenerative disorders-

- (a) Classification, Approach to a patient – gray matter, white matter disorders.
- (b) Diagnosis (including histopathology and neurogenetics).
- (c) Management.
- (d) Antenatal counselling.

(VII) Neurometabolic disorders including Mitochondrial Disorders-

- (a) Classification, evaluation and approach to a patient.
- (b) Neurogenetics.
- (c) Management including antenatal counselling.
- (d) Role of histopathology.

(VIII) Chromosomal Anomalies-

- (a) Autosomal abnormalities.
- (b) Sex chromosomal abnormalities.
- (c) Chromosomal abnormalities in various dysmorphic syndromes.

(IX) Toxic and Nutritional Disorders-

- (a) Toxic disorders: lead, thallium, arsenic, mercury, aluminium, organic toxins, bacterial toxins etc.
- (b) Nutritional disorders; protein energy malnutrition, Vitamin deficiencies.

(X) Neurocutaneous Syndromes-

Neurofibromatosis, Tuberous Sclerosis, Sturge Weber Syndrome etc.

(XI) Movement Disorders-

- (a) Cerebellar dysfunction Ataxias, chorea, dystonias, Tics, infantile tremor syndrome etc.

(XII) Cerebro-Vascular Disorders-

- (a) Arterial thrombosis.
- (b) Venous thrombosis/embolism.
- (c) Intracranial bleed.
- (d) Stroke and Role of Radio imaging.

(XIII) Neonatal Neurology-

- (a) Neonatal seizures.
- (b) Hypoxic encephalopathy.
- (c) ICH and Intraventricular Hemorrhage.
- (d) Clinical neurological assessment of Neonate.
- (e) Brain edema.

(XIV) Brain Tumors-

- (a) Features, Classification, Evaluation and Management.
- (b) Role of Radiotherapy.

(XV) Spinal Cord Disorders and Congenital Vertebral Column Malformations-

(XVI) Neuromuscular Disorders-

- (a) Evaluation and investigation.
- (b) Histopathological changes in different disorders.
- (c) Developmental disorders of muscle.
- (d) Muscular dystrophies.
- (e) Endocrine and metabolic myopathies, channelopathies.
- (f) Inflammatory myopathies.
- (g) Disorders of Neuromuscular transmission including congenital myasthenia.
- (h) Spinal muscle atrophy.
- (i) Motor neuron disease.
- (j) Autoimmune neuropathies.
- (k) Guillain Barre syndrome and genetic peripheral neuropathies.

(XVII) Global development Delay and Mental Retardation-

- (a) Assessment of intelligence quotient.
- (b) Causes, Evaluation.
- (c) Prevention / Role of antenatal counselling.

(XVIII) Behavioural and Pervasive Disorders-

- (a) Attention Deficit Hyperactivity Disorders (ADHD), Autistic spectrum Disorder.
- (b) Learning disability, dyslexia.

(XIX) Coma in Paediatric Patient /Brain Death-

- (a) Neonatal Intensive care and PICU management.

- (b) Monitoring of a comatose child.
- (c) Coma in Paediatric population/ metabolic coma.
- (d) Brain death.

(XX) Neurological manifestations of Systemic Diseases -

- (a) Metabolic encephalopathies.
- (b) Metabolic disorders of acid/base / electrolyte disturbance/carbohydrate/fat/protein metabolism.
- (c) Neurological complications of pulmonary, gastrointestinal, hepatic, renal, cardiac, haematological, Rheumatic, neoplastic and endocrine diseases.

(XXI) Neurological and Neurosurgical Emergencies-

- (a) Perinatal and neonatal traumatic injuries and neurosurgical emergencies.
- (b) Neurological Emergencies.

(XXII) Clinical Epidemiology-

- (a) Research methodology.
- (b) Biostatistics.

(XXIII) Ethics and practice guidelines in pediatric neurology-

(XXIV) Neuroinformatics-

Use of Media in education, computer information and technology, telemedicine.

(XXV) Rehabilitation in Pediatric Neurology-

- (a) Principles of physiotherapy.
- (b) Assistive devices, pain management and palliative care.
- (c) Treatment of spasticity.
- (d) Occupational therapy.

(XXVI) Community Paediatrics-

- (a) National Programmes, immunization and related neurological disorders.
- (b) AFP surveillance.

(XXVII) Non Epileptiform Paroxysmal Disorders and Sleep Disorders and Headache Disorders-

- (a) Childhood headache.
- (b) Breath holding spells.
- (c) Syncope
- (d) Sleep disorders & Parasomias.

(XXVIII) Neuroendocrine and Autonomic Nervous System Disorders-

- (a) Disorders of Hypothalamus & Pituitary gland in Childhood and Adolescence.
- (b) Disorders of micturition and defecation.
- (c) Disorders of autonomic nervous system.

(XXIX) Pediatric Neurological Investigations-

EEG, USG, CT SCAN, Transcranial Doppler,
Nerve conduction studies, EMG, VEP, BAER, MRI, PET, SPECT

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.)