Neurology and Pediatrics Syllabus

1) Neuro Anatomy & Examination
    - Basic Anatomy of Brain (Video), Sensory Examination (Video), Detailed Perceptual Dysfunction Examination & treatment (Video). Cranial Nerves
    - Examinations (D/D between II & III, D/D of V & VII, D/D UMN v/s LMN type of facial paralysis, D/D IX & X), Spasticity v/s Rigidity, Agnosia, Apraxia (Ideomotor/Ideational)

2) SCI
    - Basic Neuro Anatomy of spine, Different Ascending & Descending Tracts, D/D (Differential Diagnosis) of UMN v/s LMN.
    - Syndromes in SCI (Brown Sequard, Central Cord, Anterior Cord, Post Cord, Cauda Equina etc.) Neurological complications associated with SCI (Autonomics Dysreflexia, Orthostatic Hypotension, Pulmonary Complications etc. & Management).
    - Highest functional prognosis with different levels of SCI, Bladder Training with spastic & Flaccid Bladder Mobility training including bed mobility, transfer, ambulation and wheelchair.
    - Physiotherapy Management.

3) CVA
    - Blood Circulation of Brain.
    - Neurovascular syndrome with detailed explanation (depending upon arteries involved MCA, ACA, PCA, VBA, Wallenberg, Locked-in syndrome, weber syndrome, Horner's Syndrome)
    - Differential diagnosis (D/D of AICA v/s PICA), Pusher Syndrome, Synergy Pattern & how to break synergy with PNF application.
    - Gait training
    - Treatment approaches as per synergy pattern

4) Balance (cerebellar & Basal Ganglia)
    - Various definitions of cerebellar & basal ganglia disorders with explanation (Video)
    - D/D of various postural control (Proactive, Reactive, Adaptive & suspension)
    - Role of vision, vestibular & CNS in adaptive postural control, D/D of ankle strategies & hip strategies

- CTSIB/SOT (sensory organization testing) with detailed explanation

5) MS
    - Etiology, pathophysiology, differential diagnosis of types of MS (RRMS, PPMS, SPMS, PRMS). Differential diagnosis of pseudo exacerbation & exacerbation of MS
    - Appropriate exercises prescription for MS Related fatigue, differential diagnosis of MS related Fatigue & Exercise Related Fatigue, balance and coordination training in MS.
    - Management of fatigue, Gait and mobility training.

6) Parkinson
    - Etiology, pathophysiology, differential diagnosis between Parkinsonism,
    - Primary Parkinson's & Secondary Parkinson's, feed forward mechanism, functional outcome as per stages of Parkinson's.
    - Signs and Symptoms of Parkinson's disease
    - Physical therapy interventions including flexibility, balance, Gait and mobility training (compensatory strategies to unlock freezing of gait)

7) Vestibular Disorders
    - Basic Anatomy of Vestibular System, Examination, Unilateral Vestibular Hypofunction, Resting Nystagmus
    - Differential diagnosis & distinguished tests,
    - Vestibular ocular reflex (VOR), vestibular spinal reflex (VSR), BPPV examination with maneuver and its canalith repositioning treatment.
    - Differential diagnosis of canalithiasis V/S cupulolithiaisis. Gaze stability exercises.
    - Differential diagnosis of Meiners Disease / UVH/BBPV.
    - Differential diagnosis of central pathology V/S peripheral Pathology

8) TBI
    - Causes of TBI (PDF notes).
    - GCS in detail. Ranchos Los Amigos Scale in full detail with TBI patient
    - Management according to various stages of scale.

- Behavior Management of TBI patients as per different stages (from ICU to Total Functional Recovery)

9) ALS and GBS
   - Pathophysiology of ALS & GBS, assessment & Management,
   - Bulbar V/S Pseudobulbar Palsy, Differential diagnosis of ALS, MS, GBS & Polio

10) PNF and Motor Learning
   - PNF- Detailed explanation of various techniques of PNF & their application in Neuro Rehab (video), Lift, Reverse Lift, Chop, Reverse Chop, thrust & reverse thrust pattern and its application (mainly in breaking stroke Synergy pattern).
   - Motor Learning- Detail discussion of Various terms & Feedbacks in Motor Learning & its application in rehab, Kp V/S Kr, Stages of Motor Learning

11) Pediatric Conditions
   - Clinical features and physical therapy management of CP, Spina Bifida, hydrocephalus, DMD V/S BMD, Plagiocephaly along with torticollis. Down's syndrome (Video), Autism (Video) etc