

# Datta Meghe Institute of Medical Sciences

## PhD in Neurorehabilitation

### Syllabus

S/No	Theme	Topics
1.	Embryology, Gross & Fine Motor Development, Developmental reflexes, Basic concepts of nervous system, neural plasticity, movement plasticity	<ul style="list-style-type: none"> <li>✓ Intrauterine development of Nervous system</li> <li>✓ Principles of Human development, Motor development in the normal child</li> <li>✓ Assessment and testing of infant and child development, Motor behaviour during early childhood and adolescent, -Primitive Reflexes, Spinal reflexes</li> <li>✓ -Brainstem reflexes, Cortical reflexes/reaction</li> <li>✓ Review of basic concepts of Nervous system, (Anatomical and Physiological)</li> <li>✓ Neural Plasticity</li> <li>✓ Movement Plasticity</li> </ul>
2.	Theories of development, motor learning and control	<ul style="list-style-type: none"> <li>A) Theories of motor development of normal child,</li> <li>B) Theories of motor control</li> <li>C) Theories of motor learning.</li> <li>✓ Stages of Learning</li> </ul>
3.	Neurological disorders	<ul style="list-style-type: none"> <li>a) Infant and child with Cerebral Palsy</li> <li>b) Spina bifida</li> <li>c) Traumatic Brain injury in adult and pediatrics</li> <li>d) Traumatic and atraumatic spinal cord injuries in adults and paediatrics</li> <li>e) Parkinson's disease</li> <li>f) Cerebellar lesions</li> <li>g) Stroke</li> <li>h) GBS</li> <li>i) Peripheral nerve injuries</li> </ul>
4.	Assessment of Neurological Conditions	<ul style="list-style-type: none"> <li>✓ Advance skills in assessment of adult and pediatric Neurological, Neurosurgical &amp; Neuropsychological</li> </ul>

		<p>conditions</p> <ul style="list-style-type: none"> <li>✓ Various outcome measures and assessment methods used in adult &amp; geriatric neurological conditions e.g., GCS, MMSE, Berg Balance Scale, Fugl Mayer scale, Barthel index, ASIA Impairment scale, etc.</li> <li>✓ Assessment of coordination and Gait</li> </ul>
5.	Physiotherapy approaches	PNF, NDT, Rood's Approach, Motor Relearning Programme, CIMT and brunnstrom approach.