

# **POST GRADUATE DIPLOMA IN DEVELOPMENTAL THERAPY (MULTIPLE DISABILITIES: PHYSICAL & NEUROLOGICAL)**

## **Course Curriculum & Guidelines**



### **REHABILITATION COUNCIL OF INDIA**

(Statutory Body under the Ministry of Social Justice and Empowerment)

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New Delhi – 110 016

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**2004**

# **POST GRADUATE DIPLOMA IN DEVELOPMENTAL THERAPY (MULTIPLE DISABILITIES: PHYSICAL & NEUROLOGICAL)**

## **1.0 NOMENCLATURE OF THE COURSE**

Post Graduate Diploma in Developmental Therapy (Multiple Disabilities: Physical & Neurological)

## **2.0 OVERALL AIM AND GENERAL OBJECTIVES**

### **2.1 Aim**

To develop human resources in the area of developmental therapy to facilitate appropriate physical and functional therapeutic intervention, so as to achieve maximum functional independence and better quality of life for persons with disabilities.

### **2.2 General Objectives**

2.2.1 To develop an overview on all aspects of human growth and development through life-span approach.

2.2.2 To develop an in-depth knowledge of human anatomy and physiology.

2.2.3 To develop an understanding of the medico-social aspects of disabling conditions

2.2.4 To develop skills for conducting physical and functional assessments, within a interdisciplinary approach.

2.2.5 To provide physical and functional therapeutic skills in developing effective and holistic intervention strategies using a life-span approach

2.2.6 To develop an awareness of the social, political, economic, cultural and legal needs of persons with disabilities, within the family and society in order to foster acceptance and inclusion.

2.2.7 To promote the human values and ethics involved in doing development work effectively.

2.2.8 To develop an appreciation of the benefits of a cost effective and holistic approach to rehabilitation.

### **2.3 Learning Outcomes**

2.3.1 To apply the knowledge of theories of development as a basis for developmental therapy for children and young adults with disability.

2.3.2 To apply the knowledge of human anatomy and physiology to recognize normal and deviant patterns of development.

- 2.3.3 To demonstrate techniques for physical and functional assessment and clinical measurements.
- 2.3.4 To recognize the major conditions/situations responsible for developmental difficulties leading to delayed physical and functional milestones and offer preventive advice.
- 2.3.5 To effectively plan, implement and evaluate therapeutic Intervention strategies for physical and functional development and management in the contexts of the home and the community in urban and rural areas.
- 2.3.6 To demonstrate an awareness of the social, political, economic, cultural and legal needs of persons with disability within the family and society, in order to foster acceptance and integration.
- 2.3.7 To demonstrate an understanding of community and family dynamics in work with persons with disability and their families.
- 2.3.8 To implement the principles of community based rehabilitation through a interdisciplinary / transdisciplinary approach in work with persons with disability and their families.
- 2.3.9 To demonstrate skills of time and resource management in order to work effectively and to strive towards professional growth.

### **3.0 ENTRY REQUIREMENTS**

**Qualification:** Minimum 50% marks in graduation

- 1 Bachelor's degree in Home Science, Human Biology, Anthropology, Zoology and Botany from a recognized university.  
OR
2. Bachelor's degree in Medical Sciences and Paramedical sciences from a recognised university.  
  
OR
3. Bachelor's degree in subjects other than those mentioned above from a recognised university with at least one year hands on experience in working with persons with disability and their families.  
OR
4. Bachelor's degree in any subject other than those mentioned in (01) and (2) from a recognised university with an allied course in the field of disability rehabilitation.  
  
OR

5. Master's degree in Child Development , Social Work or of the subjects mentioned in (01) and (2).
- OR
6. Master's degree in subjects other than those mentioned in (01) and (2) with either one year hands on experience in working with persons with disability and their families or an allied course in the field of disability rehabilitation.

*Government norms applicable for SC / ST and persons with disability.*

**4.0 INTAKE CAPACITY (MAX-MIN.)**

Maximum 20 students per academic year and minimum 15 students.

**5.0 MEDIUM OF INSTRUCTION**

English/Hindi

**6.0 DURATION OF THE COURSE**

One academic year and 3 months internship.

**7.0 TEACHER - STUDENT RATIO**

1:8

**8.0 MINIMUM ATTENDANCE REQUIRED**

80% attendance is compulsory in theory and practical, as well as field work. Four late comings will be considered as one day leave.

**9.0 MINIMUM REQUIREMENT FOR FACULTY AND STAFF**

**Assistant Professor** – P.G. Diploma in Developmental Therapy (Multiple Disabilities: Physical and Neurological)

**Educational Qualifications:** Post Graduate Diploma in Developmental Therapy

OR

B.Sc./M.Sc. in Occupational Therapy / Physiotherapy from a recognized University.

**Essential Experience:** Minimum 3 years of experience as a paediatric therapist / rehabilitator plus a minimum 2 years experience as a lecturer/ Master Trainer in a well reputed institute in the field of disability and development.

**Lecturer** – P.G. Diploma in Developmental Therapy (Multiple Disabilities: Physical and Neurological)

**Educational Qualifications:** Post Graduate Diploma in Developmental Therapy

OR

B.Sc./M.Sc. in Occupational Therapy / Physiotherapy from a recognized University.

**Essential Experience:** Minimum 3 years of experience in the field of Disability and development plus a minimum one year of experience as a lecturer / Master Trainer in a well reputed institute in the field of disability and development

## **10.0 ESSENTIAL AND DESIRABLE QUALIFICATIONS OF PRINCIPAL/HEAD OF THE DEPARTMENT**

### **DIRECTOR/ PRINCIPAL**

**Essential Qualification:** Masters' Degree in field related to Education/Disability and Development

**Desirable:** Ph.D

**Experience:** Minimum five years as a Masters' trainer and minimum of five years of experience of working in the field of disabilities and development

## **11.0 MINIMUM REQUIREMENT FOR LAB(S) TOOLS & EQUIPMENT**

- Skeleton, model of the brain, anatomical charts
- Overhead Projector
- Slide Projector
- Simulation glasses
- Demonstration model
- TV/VCR
- Tape-recorder
- Therapy equipment
- Assistive and orthotic\_devices
- Postural aids
- Communication aids
- Teaching aids
- Hearing aids/audiometer

## **12.0 BUILDING /SPACE REQUIRED**

### **(a) Classroom & ( b) Labs**

Lecture rooms - 2

Reading rooms - 01

Centre for Special Education(special school)

Early Intervention Programme

Adult Training Programme

Rural Community Based Programme

Other NGOs and institutions in the field of disability.

Mainstream schools

### (c) Library

SRS has one of the best equipped libraries in the area of disability and development. Well stocked with over 1,930 books and journals on special education, education therapy and allied disciplines, the library is an excellent resource bank for its students.

- Specialized books on Child Development , Anatomy and Physiology, Physiotherapy and Occupational therapy, Special Education and other related issues on disability and development.
- Handouts and journal extracts on recently researched topics.
- Subscription to national and international journals
- Audio – visual aids (slides, video – film and audio tapes)

### 13.0 PERIODIC EVALUATION AND FINAL EXAMINATION

As per University rules.

### 14.0 CONTENT OF THE COURSE WITH OBJECTIVES, WEIGHTAGE AND HOURS ALLOCATED AND REFERENCE MATERIAL FOR EACH PAPER (Detailed Course Syllabus attached)

#### A THEORY PAPERS

		Marks Allocated			Hours Allocated		
		Total	Theory	Internal Evaluation	Total	Theory	Practical
	<b>SEMESTER I</b>						
Paper I	Human Development	100	100	---	100	75	25
Paper II	Basic Applied Biological Sciences	100	60	40	100	60	40
Paper III	Medico Social Aspects of Cerebral Palsy And other Disabilities	100	100	---	100	75	25
	<b>SEMESTER II</b>						
Paper IV	Physical and Functional Assessment	100	40	60	100	40	60
Paper V	Physical and Functional Development And Management in Cerebral Palsy and Other Neurological conditions – Part I	100	100	--	100	75	25
Paper VI	Physical and Functional Development And Management in Cerebral Palsy and Other Neurological conditions – Part I	100	100	---	100	75	25
Paper VII	Disability, Development and related Intervention Strategies	100	65	35	100	75	25
	<b>Total</b>	<b>700</b>	<b>565</b>	<b>135</b>	<b>700</b>	<b>475</b>	<b>225</b>

## **B. PRACTICAL**

### **B.1 PRACTICAL EXAMINATION**

<b><i>Semester II</i></b>	<b>Marks Allocation</b>	<b>Hours Allocation</b>
Practical Test- Physical & Functional Abilities, Assessment and Training	200	

### **B.2 INTERNAL EVALUATION**

#### **Semester I**

1. Programme Placement Evaluation (I)	35	70
2. Reference Manual: Child Development	30	12

#### **Semester II**

1. Programme Placement Evaluation(II)	35	70
2. Case Study	70	18
3. Community Based Rehabilitation Project Report	30	70
4. Reference Manuals: Physical & functional Assessment	40	14
5. Reference Manual: Physical and Functional Development and Management	60	16

<b>B.3 INTERNSHIP ( I, II, III)</b>	200	430
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**Total** **700** **700**

*The overall average ratio of Practical and Theory hours during the course is 65:35.*

### **15.0 RECOMMENDED TEACHING MATERIAL–BOOKS, JOURNALS, AUDIO VISUAL SOFTWARE ETC**

List enclosed at the end of each paper.

### **16.0 AWARD OF DEGREE/PG DIPLOMA /DIPLOMA/CERTIFICATE**

The successful candidates will be awarded a Post-Graduate Diploma in “Developmental Therapy (Multiple Disabilities: Physical & Neurological)” awarded by the University of Delhi at an annual Valedictory Event

## 17.0 COURSE SYLLABUS

### SYLLABUS FOR GROUP A THEORY SUBJECTS

#### 17.1 Theory Paper I Human Development

##### Objective

To provide an in-depth understanding of the various aspects of human growth and development so as to apply the principles / theories of relevant aspects of human growth and development, in their work with persons with disability.

Hours	Topics	Total Hours: 100 Theory: 75 hrs Practical: 25 hrs
	<ul style="list-style-type: none"><li>• Introduction to Human Development</li></ul>	
2	- Principles of development	
2	- Stages of development	
2	- Overview of growth and development	
2	- Theories of Development	
2	- Factors affecting development	
	<ul style="list-style-type: none"><li>• Gross motor development</li></ul>	
4	- Milestones	
8	- Primitive reflexes; righting & equilibrium reactions	
6	- Process of Motor Development and Contribution of Reflexes	
	<ul style="list-style-type: none"><li>• Fine motor development</li></ul>	
2	- Milestones	
2	- Types of grasp	
2	- Pre requisites for fine motor development	
2	- The development of drawing and writing	
2	- Variations	
8	<ul style="list-style-type: none"><li>• Developmental milestones of daily living skills</li></ul>	
	- Bladder and bowel control	
	- Pre feeding and feeding	
	- Dressing	
	- Bathing	
	- Grooming	
2	- Variations	
	<ul style="list-style-type: none"><li>• Cognitive Development</li></ul>	
6	- Milestones; Theories of development	
2	- Variations	



- 2 • Perceptual Development
  - 4 - Introduction
  - 4 - Body Image, Perception of Space, Spatial Relations(form perception, figure ground perception) & Time Perception
  - 4 - Development of early perception, Motor Basis of Learning, Generalization
  - 4 - Importance of Inter-sensory Integration; Perceptual Process
  - 2 - Variations
  
- 4 • Social & Emotional Development
  - Milestones
  - Theories of development
  - Types of play and its importance
  - Variations
  
- 4 • Personality development
  - Theories ,concepts and dimensions
  - Adjustment mechanisms
  - Variations
  
- 4 • Visual Development
  - Milestones
  - Eye movements, tracking, accommodation, convergence, acuity
  - Variations
  
- 8 • Speech, Hearing, Language & Communication
  - Milestones
  - Communication Chain
  - Mother-Infant interaction
  - Language development and levels of Communication with children
  - Development & Relationship to vegetative functions
  
- 8 • WORKSHOPS
  - Stages of Child Development

**Teaching Material Recommended ( Paper I ) --Human Development**

<b>S.No</b>	<b>Author</b>	<b>Title</b>
1	Berk , Laura E.	Child Development
2	Santrock, John W.	Child Development
3	Hurlock, Elizabeth B.	Child Development
4	Fiorentino,R.Mary (1996 )	A Basis for Sensory Motor Development – Normal & Abnormal
5	Gassier,Jacqueline (1984)	A Guide to Psychomotor Development of the Child
6	Illingworth, R.S. (1994 )	The Development of the Infant & Young Child – Normal & Abnormal
7	Kephart ,N.C. ( 1971 )	The Slow Learner in the Classroom
8	Levitt Sophie	Treatment of Cerebral Palsy and Motor Delay (3 <sup>rd</sup> Ed)
9	Payne, Gregory V	Human Motor Development
10	Sheridon Mary D. (1995 )	From Birth to Five Year's Children's Developmental Progress, Neer-Nelson, England.
11	Holle Britta	Motor Development in Children : Normal & Retarded

## 17.2 PAPER II BASIC APPLIED BIOLOGICAL SCIENCES

### Objectives:

1. To equip the students with the understanding of human anatomy in general.
2. To equip the students with knowledge of human physiology in general
3. To equip the students with knowledge of structure and function of Central Nervous System and Musculo-skeletal system in detail so as to impart this knowledge while working with people with disability.
4. To equip the students with the knowledge of normal posture, its bio-mechanism and the neural control of posture.

Hours	Topics	Total Hours :100 Theory: 60 hrs Practical: 40 hrs
4	• Human body – cell, tissue, organ and system	General Introduction to various systems of body and their basic functions
4	• Anatomical Terminology, movements and planes of the body	
10	• Gross structure and function of the Central nervous system	
4	• Neurological basis of development	
4	• Classification of joints	
12	• Structure and function of Skeletal system	
2	• Structure of muscle tissue	
12	• Origin, insertion, action and nerve supply of major functional muscle groups.	
2	• Physiological basis of Muscle Tone	
2	• Myotomes, Sclerotomes & Dermatomes of the body	
6	• How muscles work	
4	• Surface anatomy – bones and muscles	
4	• Analysis of stabilising factors & movements of the spine and other joints.	
2	• Respiratory system	
2	• Circulatory system	
2	• Urogenital system	
2	• Endocrine system	
4	• The anatomy and physiology of the speech mechanism	
2	• The structure and function of the ear	
2	• The structure and function of the eye	
2	• Normal posture	
6	• The neural control of posture and movements	
2	• Bio-mechanics of posture	
2	• The effects of exercise on the heart and lungs	
2	• Genetics and heredity	

**Teaching Materials Recommended  
( Paper II ) – Basic Applied Biological Sciences**

S.N	Author	Title
1.	Casey, Morton Ed., (1985),	Atlas of Anatomy
2.	Downie, A .Patricia (1986)	Cash's Textbook of Neurology for Physiotherapists
3.	Gopinath, Gomathy (1996)	Brain (A Precious Possession)
4.	Gowite, Barbara (1980)	Understanding the Scientific Basis of Human Movement
5.	Jensen, Schultz & Bangerter (1984)	Applied Kinesiology & Biomechanics,
6.	Anthony, Catherine Parker	Text Book of Anatomy & Physiology
7.	Moffat & Mottram	Anatomy & Physiology for Physiotherapists
8.	Stonehouse, (1974)	Way Your Body Work
9.	Tydesley, Barbara (1989)	Muscles, Nerves & Movement
10.	William, Mairam (1962)	Bio-mechanics of Human Motion
11.	Kathleen J.W. Wilson	Anatomy & Physiology in Health & Illness

### 17.3 PAPER III MEDICO -SOCIAL ASPECTS OF CEREBRAL PALSY AND OTHER DISABILITIES

#### Objectives:

1. To develop the understanding of disability, identification, causes and its prevention.
2. To impart the basic knowledge (definitions, aetiology, classification, characteristics & associated problems) of some specific conditions like cerebral palsy, Mental Retardation, Muscular dystrophy, Neural tube defects, Polio, epilepsy, hydrocephaly microcephaly)
3. To develop the basic understanding (aetiology, identification and basic management) of differnt conditions like common orthopaedic conditions, blood & metabolic disorders TB, Leprosy, ADHD, LD, Autism etc.

<b>Hours</b>	<b>Topics</b>	<b>Total Hours: 100</b> <b>Theory: 75 hrs</b> <b>Practical: 25 hrs</b>
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- |   |   |
|---|---|
| 2 | • Medical terminology related to birth history                            |
| 2 | • Causes of Disability (including high risk infants, developmental delay) |
| 2 | • Types and causes of deformities   |
| 2 | • Response of bone, muscle and nervous tissue to damage                   |

#### SPECIFIC CONDITIONS

- |    |  |
|----|--|
| 16 | <ul style="list-style-type: none"> <li>• Cerebral Palsy               <ul style="list-style-type: none"> <li>- Magnitude of the condition</li> <li>- Definition, Aetiology, classification &amp; characteristics</li> <li>- Characteristics of development in cerebral palsy(with a focus on gross and fine motor development)</li> </ul> </li> </ul>                        |
| 2  | • Speech & language disorders  |
| 2  | • Hearing Loss   |
| 4  | <ul style="list-style-type: none"> <li>• Visual disorders               <ul style="list-style-type: none"> <li>- Effect of visual impairment on cognitive &amp; motor development</li> </ul> </li> </ul>   |
| 4  | • Epilepsy – aetiology, types and drug management  |
| 4  | <ul style="list-style-type: none"> <li>• Mental Retardation :               <ul style="list-style-type: none"> <li>- Definition , identification and magnitude of the condition</li> <li>- Aetiology, Classification</li> <li>- Characteristics(functional and physical )</li> <li>- Syndromes and conditions associated with mental retardation e.g.</li> </ul> </li> </ul> |

Down's syndromes, microcephaly

- 4
  - Muscular Dystrophy
    - Classification and types
    - Aetiology, characteristics and specific intervention for Duchenne's Muscular Dystrophy and allied conditions e.g. spinal muscular atrophy
- 6
  - Neural Tube Defects and Hydrocephaly
    - Aetiology, classification and intervention
    - .
- 4
  - Polio
    - Aetiology, features and stages
    - Prevention and intervention
- 2
  - Deteriorating conditions and some congenital syndromes e.g. Ataxia Telangectasia, Tuberous sclerosis & Friedrich's Ataxia
- 4
  - Common orthopaedic conditions
    - Rickets
    - Arthritis
    - Arthrogyphosis
    - Osteogenesis Imperfecta
    - Infections of bones and joints
    - CTEV and flat foot
    - Congenital Dislocation of Hip (CDH)
- 4
  - Differential diagnosis – Workshop
- 2
  - Workshop highlighting social perspective of people with different disabilities
- 2

AETIOLOGY, IDENTIFICATION, BASIC MANAGEMENT AND REFERRAL FOR FOLLOWING CONDITIONS
- 2
  - Blood & metabolic disorders
- 2
  - Nerve injuries
    - Types and causes
    - Erb's palsy
    - Injection Palsy
- 2
  - Tuberculosis
- 2
  - Leprosy
- 2
  - Malnutrition
- 2
  - Attention Deficit Hyperactivity Disorder (ADHD)

2

- Learning Disabilities

2

- Dyspraxia

2

- Autism

2

- Deaf Blind

4

- Psychiatric disorders in children and adults

2

- HIV infection and Acquired Immune Deficiency Syndrome (AIDS)

2

- Traumatic Brain Injury in children

2

- Spinal Cord Injury in children

2

- Pain-causes and management

**Teaching Materials Recommended****( Paper – III Medico-Social Aspects of Cerebral Palsy & Other Disabilities**

S.No	Author	Title
1.	Bleck, E.E. & Nagel,D.A.	Physically Handicapped Children – A Medical Atlas for Teachers
2.	Bobath, B. Berta	ABN Postural Reflex Activity Caused by Brain
3.	Bobath, Berta & Karel	Motor Development in Different Types of C.P.
4.	Campbell, A.G.M. & Macintosh	Forfar & Arneil's- Text Book of Pediatrics
5.	Campbell ,Suzann K. Ed .	Paediatrics Neurological Physical Therapy
6.	David, W.Smith	Recognisable Patterns of Human Malformation
7.	Drillion C.M.Drummond	Neuro-developmental Problems in early Childhood
8.	Hopkins & Smith	Occupational Therapy
9.	Huckstep, R.L.	Poliomyelitis
10.	Levitt, S.	Pediatric Development Therapy
11.	Thomson , Skinner	Tidy's Physiotherapy
12.	Trombly, Catherina	Occupational Therapy for Physical Dysfunction
13.	Turner, Foster & Johnson	Occupational Therapy & Physical Dysfunction
14.	Welch,Colletle	Spina Bifada & You
15.	Hopkins & Smith	Occupational Therapy
16.	Hotchkins Ralf (1985)	Independence through Mobility
17.	Levitt.S.	Treatment of Cerebral Palsy & Motor Delay
18.	Pratt P.N.& Stevens , A.A.	Occupational Therapy for Children 2nd Ed.,
19.	Scrutton David (1984)	Management of Motor Disorders of Children with Cerebral Palsy
20.	Turner Ann (Ed.) (1981)	Practice of Occupational Therapy
21.	Werner David (1994)	Disabled Village Children
22.	Winstock April,(1994)	Practical Management of Eating & Drinking Difficulties in Children
23.	Presland.John L.,(1982)	Paths to Mobility



## 17.4 PAPER IV PHYSICAL AND FUNCTIONAL ASSESSMENT

### Objectives:

1. To equip students with an understanding about the reasons for doing an assessment with persons with disability and their families
2. To develop an understanding of different kinds of physical and functional assessment with children/young adults with disability viz. Gross and fine motor, ADL, Clinical measurements and so on.
3. To provide a practical skill training in the techniques of physical and functional assessment with children / young adults with disability and enable students to develop the same.
4. To provide inputs in analytical report writing and evaluating the assessment procedure.

Hours	Topics	Total Hours 100 Theory : 40 hrs Practical: 60 hrs
2	<ul style="list-style-type: none"> <li>• Techniques for effective learning</li> </ul>	
1	<ul style="list-style-type: none"> <li>• Introduction to assessment</li> </ul>	
1	<ul style="list-style-type: none"> <li>- Observation techniques</li> </ul>	
1	<ul style="list-style-type: none"> <li>- Purpose and aims</li> </ul>	
2	<ul style="list-style-type: none"> <li>- Approaches to assessment</li> </ul>	
1	<ul style="list-style-type: none"> <li>- Types of assessment</li> </ul>	
1	<ul style="list-style-type: none"> <li>- Planning for assessment</li> </ul>	
2	<ul style="list-style-type: none"> <li>- Use of assessment performa</li> </ul>	
4	<ul style="list-style-type: none"> <li>• Anthropometry</li> </ul>	
4	<ul style="list-style-type: none"> <li>• History taking</li> </ul>	
2	<ul style="list-style-type: none"> <li>• Developmental assessment</li> </ul>	
	<ul style="list-style-type: none"> <li>- Denver developmental screening test for urban and rural areas</li> </ul>	
4	<ul style="list-style-type: none"> <li>- Functional vision testing</li> </ul>	
2	<ul style="list-style-type: none"> <li>- Functional hearing testing</li> </ul>	
2	<ul style="list-style-type: none"> <li>- Outline of intellectual and language testing</li> </ul>	
4	<ul style="list-style-type: none"> <li>• Physical Assessment</li> </ul>	
8	<ul style="list-style-type: none"> <li>- Tone, movements, pattern &amp; posture</li> </ul>	
2	<ul style="list-style-type: none"> <li>- Gross and fine motor skills</li> </ul>	
	<ul style="list-style-type: none"> <li>- Muscle tightness</li> </ul>	
6	<ul style="list-style-type: none"> <li>- Gait (normal gait and observational gait analysis)</li> </ul>	
4	<ul style="list-style-type: none"> <li>- Pathological gait.</li> </ul>	
2	<ul style="list-style-type: none"> <li>• Fine Motor Assessment</li> </ul>	
6	<ul style="list-style-type: none"> <li>• Functional Assessment</li> </ul>	

- Activities of daily living
  - Mobility (physiological, domestic and community)
- 2 • Sensory Assessment
  - 2 • Assessment of deteriorating conditions
  - Clinical Measurement
    - 6 - Manual / functional muscle testing
    - 8 - Goniometry
    - 1 - Leg Length discrepancy
    - 1 - Spinal curvature measurements
  - Impact of disability on :
    - 6 - Family members (needs assessment)
    - 6 - Individual (children, adolescents & adults with special reference to needs)
  - 8 • Comprehensive analysis of problems and potential

**Teaching Material Recommended  
(Paper – IV) Physical & Functional Assessment**

S.No	Author	Title
1.	Banerjee, Arundhati (1996)	Infant Assessment (0-2yrs) IICP Calcutta
2.	Bobath, Berta (1978)	Adult Hemiplegia Evaluation & treatment 2 <sup>nd</sup> Edition
3.	Campbell, Suzann K. (1991),	Pediatric Neurological Physical Therapy
4.	Gage, James R. (1991)	Gait Analysis in Cerebral Palsy
5.	Help Authors ( 1985)	Help (Activity Guide )
6.	Hishop, Helen J. & Montgomery (1995)	Muscle Testing
7.	Hopkins & Smith (1993)	Occupational Therapy (8 <sup>th</sup> Ed.)
8.	Kendall	Muscle Testing & Function 4 <sup>th</sup> Ed.
9.	Levitt, S	Pediatric Dev Therapy
10.	Levitt, S	Treatment of CP & Motor Delay
11.	Levitt, S	Basic Abilities - A Whole Approach
12.	Mcrae, Ronald	Clinical Orthopedic Examination , 2 <sup>nd</sup> Ed.,
13.	Morris Evan, Suzanne (1987)	Pre- Feeding Skills ( A Comprehensive Course for Feeding Dev Therapy)
14.	Palmer & Epler, (1990)	Clinical Ass. Procedure in Physical Therapy
15.	Pilling .D (1972)	Orthopedically Handicapped Child
16.	Pratt, Pat Nuse & Allen	Occupational Therapy for Children
17.	Presland. John L., (1982)	Paths to Mobility
18.	Rancho Los Amigos Medical Centre (1993)	Observational Gait Analysis
19.	Scherzer, Alfred L. (1990)	Early Diagnosis & Therapy in CP
20.	Thomas Linda King (1987)	Therapists Guide to Pediatric Ass
21.	Trombly, Catherina	Occupational Therapy for Physical Dysfunction
22.	Turner Ann (Ed.,) (1981)	Practice of Occupational Therapy

## 17.5 PAPER V PHYSICAL AND FUNCTIONAL DEVELOPMENT AND MANAGEMENT IN CEREBRAL PALSY AND OTHER NEUROLOGICAL CONDITIONS (PART I)

### Objectives:

1. To equip the students with a holistic understanding of the needs of persons with disability and family vis-a vis intervention using a transdisciplinary approach.
2. To teach the skills of comprehensive goal setting and devising programme plans based on the abilities and needs of the persons with disability and family
3. To teach the theoretical principles and practical skills RELATED to different techniques for the physical and functional development/management of the persons with disability.
4. To impart the skills of incorporating the above techniques in the daily routine of the persons with disability and family through a collaborative effort with them.
5. To foster an evaluative and responsive approach to the multiple dynamic needs of the persons with disability and family resulting in an appropriate modification of the program plans.

Hours	Topics	Total Hours 100 Theory : 75 hrs Practical: 25 hrs
2	<ul style="list-style-type: none"> <li>• Areas of intervention in therapy</li> </ul>	
4	<ul style="list-style-type: none"> <li>• Lifting and transfer techniques</li> </ul>	
2	<ul style="list-style-type: none"> <li>• Introduction to aids &amp; assistive devices               <ul style="list-style-type: none"> <li>- Use of everyday equipment</li> </ul> </li> </ul>	
2	<ul style="list-style-type: none"> <li>• Postural Management               <ul style="list-style-type: none"> <li>- Bio-mechanics of postural care</li> </ul> </li> </ul>	
4	<ul style="list-style-type: none"> <li>- Corrective positioning in daily life</li> </ul>	
4	<ul style="list-style-type: none"> <li>- Selection and measurement of positioning aids</li> </ul>	
9	<ul style="list-style-type: none"> <li>- Seating theory and design, Selection and measurement for seating aids</li> </ul>	
1	<ul style="list-style-type: none"> <li>- The value of standing</li> </ul>	
20	<ul style="list-style-type: none"> <li>• Orthotics               <ul style="list-style-type: none"> <li>- Selection, measurement and use of upper limb, lower limb and spinal orthoses</li> </ul> </li> </ul>	
2	<ul style="list-style-type: none"> <li>- Periodic review of aids</li> </ul>	
4	<ul style="list-style-type: none"> <li>• Stretching techniques (passive movements, myofascial release)</li> </ul>	
4	<ul style="list-style-type: none"> <li>• Exercise therapy (Rationale, types of exercises, selection and application)</li> </ul>	
4	<ul style="list-style-type: none"> <li>• Eclectic approach for gross and fine motor development               <ul style="list-style-type: none"> <li>- Gross Motor Activities</li> </ul> </li> </ul>	
4	<ul style="list-style-type: none"> <li>- Problems and management of hand function</li> </ul>	

- 18                    including handwriting
- Neuro-developmental Techniques
  
- Surgical Intervention
- 4                    - Bio mechanics of Deformities
- 4                    - Surgical procedures in cerebral palsy, polio and other  
                     paediatric conditions e.g. club foot, idiopathic  
                     progressive scoliosis
- 4                    - Pre –operative assessment
- 4                    - Pre and post operative management and family  
                     counseling

**Teaching Materials Recommended**  
**(Paper –V) Physical & Functional Development & Management in Cerebral Palsy & other Neurological Conditions –**  
**Part - I**

S.No	Author	Title
1.	Bleck, E.(1979)	Orthopedic Management of CP
2.	Bobath, Berta (1978)	Adult Hemiplegia Evaluation & Treatment
3.	Bunch & Kready., Ed	Principles of Orthotic Treatment
4.	Bush Mary Ann(1989)	Occupational Therapy for Physical Dysfunction
5.	Campbell (1991)	Pediatric Neurological Physical Therapy
6.	Campbell	CP & Polio Surgery
7.	Crenshaw A.H.	Campbell 's Operative Orthopedics Vol I,II,III & IV
8	Cotton J. Phillappa (1986)	Conductive Education, System for Overcoming Motor Disorder
9	Downie A. Patricia (1985)	Cash's Textbook of Orthopedics & Rheumatology for Physiotherapists
10.	Downie A. Patricia (1985)	Cash's Textbook of Neurology for Physiotherapists
11	Ford & Duckworth (1987)_	Physical Management for the Quadriplegic Patient
12	Fraser B. Hensinger R.	Physical Management of Multiple Handicap
13	Gordon Neil (1986)	Neurologically Handicapped Children: Treatment & Management
14	Gardiner Dena M.	Principles of Exercise Therapy
15	Glenn & Whythe(1990)	Practical Management of Spasticity in Children & Adults
16	Golding Rachel	Caring Person's Guide to Handling the Severly Handicapped
17	Heritage Chailey	Sitting Comfortably
18	Hollis Margret,(1989)	Practical Exercise Therapy
19	Hopkins & Smith(1993)	Occupational Therapy (8 <sup>th</sup> Ed.)
20	Hughes Janet,Ed., (1982)	Footware & Footcare for Disabled Children
21	Levitt, S (1984)	Pediatric Dev Therapy
22	Levitt, S (1982)	Treatment of CP & Motor Delay
23	Levitt, S (1994)	Basic Abilities - A Whole Approach
24	Mohan Dinesh,(1988)	Aids for the Disabled _ A technology Assessment
25	Pelosi & Gleeson (1988)	Illustrated Transfer Technique for Disabled People

26	Penso E.Dorathy(1987)	Occupational therapy for Children with Disabilities
27	Royal College of Nursing (1981)	Handling of Patients
28	Sankaran B.(1978)	Manual of Orthotics –Lower Extremity
29	Sankaran B. (1978)	Orthotics Lower Limb- Motor Disabilities
30	Sankaran B. (1978)	Shoe Modifications & Shoe Insert Fabrication
31	Sankaran B. (1978)	Lower Limb Orthotic Components & their Functions
32	Scherzer, Alfred L.(1990)	Early Diagnosis & Therapy in CP
33	Scrutton David (1984)	Management of Motor Disorders of Children with Cerebral Palsy
34	Shephard Roberta(1980)	Physiotherapyin Pediatrics
35	Thomson , Skinner	Tidy’s Physiotherapy
36	Turner, Foster & Johnson	Occupational Therapy & Physical Dysfunction
37	Ward Diane (1998)	Positioning the Handicapped child for Function
38	Werner David (1994)	Disabled Village Children
39	Werner David (1984)	Nothing About Us without Us
40	Zollars Jean Anne (1996)	Special Seating - An Illustrated Guide

**17.6 PAPER VI PHYSICAL AND FUNCTIONAL DEVELOPMENT AND MANAGEMENT IN CEREBRAL PALSY AND OTHER NEUROLOGICAL CONDITIONS (PART II)**

**Objectives:**

Same as of Paper V

Hours	Topics	Total Hours: 100 Theory: 75 hrs Practical: 25 hrs
2	Approaches to working with children	
4	• Theories of Learning and Learning Styles	
4	Philosophy of management (transdisciplinary team approach)	
10	General prevention of disabilities – primary health care, first aid, safety procedures & back care, Health & Nutrition	
	Basic Management of specific health problems	
3	Chest care – postural drainage (techniques and indications for use)	
2	Management of sensation problems	
	Management of bowel & bladder incontinence	
3	Genetic counseling	

Hours	Topics	Total Hours:100 Theory: 75 hrs Practical: 25 hrs
	<b>Practical : 25 hrs</b>	
	• Approaches to working with children	
	• Theories of Learning and Learning Styles	
	• Philosophy of management (transdisciplinary team approach)	
	• General prevention of disabilities – primary health care, first aid, safety procedures & back care, Health & Nutrition	
	• Basic Management of specific health problems	
4	Chest care – postural drainage (techniques and indications for use)	
5	Management of sensation problems	
6	Management of bowel & bladder incontinence	
7	Genetic counseling	
	• Role of drugs in cerebral palsy and other conditions	
	• Sensory Integration	



- Activities of Daily Living: Training & Management at home; school; work place and community settings for
  - Toilet training
  - Dressing; undressing
  - Feeding and drinking
  - Bathing, brushing, Dental & general hygiene management
- Mobility
  - Use of road and public transport
  - Wheelchair skills
  - Gait training with and without mobility aids at home and in the community
- Management of persons with profound disability
- Early intervention
- Introduction to basic concepts in special education
- Speech, Language and Communication
  - Integration into therapy for training a child with speech, language and hearing impairment (e.g. ADL, Gross motor, Conductive Education etc)
  - Use of hearing aids
  - Augmentative Communication
- Perceptual problems
  - Impact on gross and fine motor development
  - Remediation
- Intervention strategies for individuals with mental retardation
- Attention Deficit Hyperactivity Disorder (ADHD)
  - Introduction to Remediation

#### Dyspraxia – Introduction to Remediation

- Overview of Goal Setting
  - Areas of intervention in therapy
- Devising individual programme plans and evaluating progress (including children with spina bifida and dystrophy)
  - Overview of therapy in daily routine
  - Therapeutic Activities
  - Setting goals and planning programme in therapy using a transdisciplinary approach

**Teaching Material Recommended****( Paper –VI )****PHYSICAL AND FUNCTIONAL DEVELOPMENT AND  
MANAGEMENT IN CEREBRAL PALSY AND OTHER  
NEUROLOGICAL CONDITIONS (PART II)**

S.No	Author	Title
1.	Bobath, Karl (1980)	Neurophysiological Basis for the Treatment of CP
3.	Burr L.Ed (1986)	Therapy Through Movement
4.	Cotton J.Phillappa (1986)	Conductive Education, System for Overcoming Motor Disorder
5.	Crawford & Mandel	Therapeutic Recreation & Adapted Physical Activities for MR Individuals
6.	Downie Patricia A. (1985)	Cash's textbook of General, Medical & Surgical Conditions for Physiotherapists
7.	Downie Patricia A. (1984)	Cash's textbook of Orthopedics & Rheumatology for Physiotherapists
8.	Finnie, Nancy (1975)	Handling the young Cerebral Palsied Child at Home
9	Harpin Phillippa(1981)	With a Little Help – Mobility ( Vol VI)
10	Harpin Phillippa(1981)	With a Little Help – Household & Seating ( Vol IV)
11	Harpin Phillippa(1981)	With a Little Help – Bathroom- (Vol III)
12	Harpin Phillippa(1981)	With a Little Help – Bedroom & Clothing (Vol II)
13	Levitt Sophie	Treatment of C.P. & Motor Delay
14	Levitt Sophie	Basic Abilities – A whole Approach
15	Maczka,Darnbrough, Birketh	Simple Aids for Daily Living
16	Morris,S.E. Evans Suzanne(1987)	Pre-Feeding Skills
17	Werner, David (1984)	Nothing About Us Without Us

## 17.7 PAPER VII DISABILITY DEVELOPMENT & INTERVENTION STRATEGIES

### Objectives

At the end of the module, the trainee will be able to demonstrate:

1. To equip student with an understanding and wider perspective of disability related issues especially in the Indian context e.g. legislation, advocacy etc
2. To equip the student with knowledge of different models of service delivery
3. To equip student with skills of Counselling and Behaviour Management and Crisis Intervention

### **PART A – DISABILITY AND DEVELOPMENT**

**Total Hours 100**

**Theory: 75**

**Practical: 25**

**Total 50 hours**

<b>Hours</b>	<b>Topics</b>
10	<ul style="list-style-type: none"><li>• Introduction to Disability and Development Perceptions about disability &amp; other social issues</li></ul>
2	<ul style="list-style-type: none"><li>• Basic terminology related to disability</li></ul>
2	<ul style="list-style-type: none"><li>• Overview of disability in India and Globally<ul style="list-style-type: none"><li>- Disability statistics (including deciphering data)</li></ul></li></ul>
6	<ul style="list-style-type: none"><li>• Disability perspective in India vis-à-vis developed countries in the following contexts (Social, Political, Economic, Cultural)</li></ul>
6	<ul style="list-style-type: none"><li>• Historical Perspective and Existing Models of service delivery (includes CBR)</li></ul>
4	<ul style="list-style-type: none"><li>• Disability Movement (including Self-Advocacy)</li></ul>
6	<ul style="list-style-type: none"><li>• Current status of existing barriers of health, education, employment and public utility services</li></ul>
4	<ul style="list-style-type: none"><li>• Integrated service systems for persons with disabilities<ul style="list-style-type: none"><li>- Strategies towards convergence (includes Access, Advocacy and Inclusion)</li><li>- Disability Evaluation Index</li></ul></li></ul>
8	<ul style="list-style-type: none"><li>• Legislation<ul style="list-style-type: none"><li>- Disability Related Acts (Persons with Disability, National Trust, RCI)</li><li>- Government concessions &amp; facilities</li></ul></li></ul>
4	<ul style="list-style-type: none"><li>• Role of Disability worker in Different Service Delivery Models</li></ul>

## **PART B INTERVENTION STRATEGIES**

<b>Hours</b>	<b>Topics</b>	<b>Total 50 hours</b>
2	<ul style="list-style-type: none"><li>• Implications of working with a person with psychiatric disorders</li></ul>	
30	<ul style="list-style-type: none"><li>• Skills in Counseling<ul style="list-style-type: none"><li>- The problem solving process</li><li>- Techniques of working with families (Counseling etc.)</li></ul></li></ul>	
2	<ul style="list-style-type: none"><li>• Transferring skills to parents</li></ul>	
6	<ul style="list-style-type: none"><li>• Behaviour Management<ul style="list-style-type: none"><li>- Identification and basic management</li></ul></li></ul>	
10	<ul style="list-style-type: none"><li>• Working with adults<ul style="list-style-type: none"><li>- Scenario</li><li>- Problems and opportunities</li><li>- Principles and guidelines of vocational rehabilitation</li><li>- Models of employment</li><li>- Independent living skills</li><li>- Leisure time activities</li></ul></li></ul>	

**Teaching Material Recommended**  
**( Paper –VII) Disability, Development & Related Intervention Strategies**  
**(Part A & B)**

S.No	Author	Title
1.	Advani, Lal (1981)	Study of Family Based Rehabilitation Potential of Disabled
2.	Baquer, Ali (1977)	Disability Challenges Vs Response
3	Coleridge, Peter (1992)	Disability Liberation Development
4	Cunningham (1985)	Working with Parents: Frame works for Liberation
5	Dalton, Peggy (1994)	Counseling People with Communication Problems
6	Davis, Hilton (1993)	Counseling - Parents of Children with Chronic Illness or Disability
7	Egan, Gerard (1994)	Skilled Helper
8	Helander, Einar	Prejudice & Dignity: An Introduction To CBR
9	Jones – Nelson, Richard (1995)	Theory & Practice of Counselling
10	Mattingly, Cheryl & Fleming (1994)	Clinical reasoning
11	McConkey, Roy (ed., (1994)	Innovation in Educating Communities About Learning Disability
12	Meyer, D	Living with a Brother or sister with Special Needs
13	Miles.M	Where There is no Rehabilitation Plan
14	Mittler & Maconachie ed., (1983)	Parents, Professionals & Mentally Handicapped People
15	O'toole Brain (1995)	Innovations in Developing Countries for People with Disabilities
16	Swain,John	Disabling Barriers, Enabling Environments
17	Werner, David	Nothing About without us