Post Graduate Diploma in Early Intervention (PGDEI)

BANGALORE UNIVERSITY
1.0 INTRODUCTION OF THE COURSE

The rapid advances in medical technology have successfully increased the survival of high risk babies but this adds on to number of babies who might end up with developmental delays and disabilities. Therefore, it is of utmost importance to focus on prevention aspects of disabilities. If a baby is born with or developing impairments or disability, there is a dire need to identify such infants with problems at the earliest and provide habilitation services and enhance the development and the quality of life. Such habilitation services early in life and development constitute the early intervention services.

The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 has made provision for prevention, early identification and intervention to these infants and young children. The early intervention is at its infancy stage in our country with far too few and scattered centres providing these services. The major hurdle in the development of these services is lack of trained personnel. Hence to reach these services to the un-reached the vital step will be human resource development.

India being a vast country, it is difficult to provide highly specialized services in the Community especially rural areas at the outset. Therefore, it is imperative to develop single window mode of delivery of services in the field of early intervention. Hence, this course focuses on preparing professionals qualified to intervene in this highly specialized field of early intervention with very young infants and toddlers.

2.0 NOMENCLATURE OF THE COURSE
Post Graduate Diploma in Early Intervention (PGDEI)

3.0 OBJECTIVES
The training is designed to add
(1) Value to the allied health professionals and
(2) Develop manpower to participate and assist habilitation teams comprising of Rehab Physicians, Occupational Therapists, Physiotherapists, Speech Language Pathologists, Clinical and Rehab Psychologists and Special Educators.

4.0 ON COMPLETION OF THE COURSE
The professionals trained (as mentioned in objective 1) have a scope of working in habilitation teams in pediatric units of hospitals, pediatric clinics, child guidance clinics, at-risk follow up clinics, child development centres, rural primary health centres and in district health centres serving children in the age range of 0-3 years, with delay in functioning due to changes in body structure and functions as covered under PWD Act (1995) and National trust act.(1999)

5.0 ELIGIBILITY
Candidates with a degree of Bachelor in Medicine, Bachelor of Surgery (MBBS), Bachelor of Rehabilitation Sciences (B.R.Sc), B.Ed in Special Education, Masters in Child Development, Bachelor in Physiotherapy, Bachelor in Occupational Therapy,
Bachelor in Audiology and Speech Language Pathology and Masters in Child Psychology; with 50% aggregate marks in case of general candidates and 45% marks in case of SC and ST candidates (or as per rules of BU for SC/ST), are eligible to apply for this course.

6.0 AGE LIMIT
Not exceeding 35 years.

7.0 ADMISSION PROCEDURE
As per rules and regulations of the Bangalore University

8.0 DURATION OF THE COURSE
One year comprising of two semesters

9.0 ATTENDANCE
Eighty percent (80%) attendance in Theory and Ninety percent (90%) in Practical is essential to be eligible to appear for the examination

10.0 MEDIUM OF INSTRUCTION AND EXAMINATION
The medium of instruction and examination will be English
Passing criteria as per norms of Bangalore University

11.0 CONTENT OF THE COURSE

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>PGDEI 101</th>
<th>Neurobiology</th>
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<tbody>
<tr>
<td></td>
<td>PGDEI 102</td>
<td>Child Development and Learning</td>
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<td>PGDEI 103</td>
<td>Assessment, Intervention and Evaluation</td>
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<td></td>
<td>PGDEI 104</td>
<td>Practicals: Case history and developmental assessments</td>
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<tr>
<td>SEMESTER II</td>
<td>PGDEI 201</td>
<td>Basics of Therapeutics</td>
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<td>PGDEI 202</td>
<td>Family and Community</td>
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<td></td>
<td>PGDEI 203</td>
<td>Practicals: Therapeutics - Assessment, Intervention and Evaluation</td>
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<td>PGDEI 204</td>
<td>Practicals: Individualised Family Assessment &amp; Individualised Early Intervention Programme</td>
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### SCHEME OF CURRICULUM FOR PGDEI

#### Semester I

<table>
<thead>
<tr>
<th>Paper No.</th>
<th>Paper Name</th>
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<th>Practical Hours *</th>
<th>Credits</th>
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<td>Case History and Developmental Assessment</td>
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- Calculated on the basis that each semester will have 14 weeks with 5 working days, and each working day will have 8 hours. It means each semester will be of 560 hours (14 weeks x 5 days x 8 hours). This is in addition to examinations, preparatory holidays for exam, vacation etc.

#### Semester II

<table>
<thead>
<tr>
<th>Paper No.</th>
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<td>PGDEI 203</td>
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# CREDITS ASSIGNED

## Semester I

<table>
<thead>
<tr>
<th>Subjects</th>
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<th>Instruction hrs/week</th>
<th>Duration exam</th>
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## Semester II

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Total 42
QUESTION PAPER TITLE

Paper Title:…………………….. 
Max Marks 70

Paper code:……………………..

(5 X 14 = 70 Marks)

Answer any 5 of the following questions. Each answer must not exceed 3 pages. All questions carry equal marks

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OBJECTIVES

- To understand the biological basis of developmental disabilities.
- To identify the causes and risk factors for developmental disabilities and understanding their implication on development as well as preventive aspects of disability.
- To have knowledge about the early indication of brain insult and characteristic features of developmental disabilities for early identification.

Unit 1: Anatomy and Embryology of the Nervous System 12 Hours


Unit 2: Physiology and Maturation of the Nervous System 10 Hours


Unit 3: Functions of the Nervous System including special senses 12 Hours

- Specific areas and functions - Frontal, Parietal, Temporal, Occipital lobes; Cerebellum, Mid brain, Pons and Medulla oblongata. Autonomic nervous system – sympathetic and parasympathetic. Limbic System, Spinal cord, and Spinal arc. Nervous system pathways – Upper motor neuron (UMN) and Lower motor neuron (LMN), cranial nerves and spinal nerves.
- Special senses - Visual, Auditory, Vestibular, Tactile, Olfactory, Proprioception and Kinesthetic.

Unit 4: Determinants of risk factors and developmental abnormalities 12 Hours

- Determinants of risk factors - Preconceptual, Prenatal, Natal, Post natal and
Psychosocial or environmental risk factors.
- Developmental abnormalities – Causes of developmental disabilities - Structural abnormalities, Biochemical abnormalities and Behavioural abnormalities.
- Neurohabilitation – concepts of, plasticity, critical period, imprinting and neuronal repair.
- Theories of neuro rehabilitation.

Unit 5: Neurofunctional indicators of early brain insults 10 Hours
- Clinical features including seizures, sleep disturbances and level of activity
  Investigative procedures - Genetic, Biochemical Pathology, Imaging techniques.
- Prevention of developmental disabilities—Prenatal, natal, post natal, including genetic counseling.

References
**OBJECTIVES:**

- To equip with ability to apply theories of child development with emphasis on cognitive, motor, social, emotional and language development.
- To understand atypical development and their implications on the development of the child.
- To understand the factors that affect child development.

**Unit I: Growth and Nutrition**

12 Hours

- Growth - Principles of growth and development:, continuous development, orderly development, sequential development, unique development, interrelated development, hereditary and environment, interaction of maturation and learning, growth and developmental, early development. Normal growth pattern growth monitoring, factors influencing growth and child rearing practices.
- Nutrition - Nutrition - effect on growth, Nutrients, Feeding & weaning, Balanced diet

**Unit 2: Motor development and Sensory Perceptual development**

12 Hours

- Motor development – Principles and development for survival, protection and learning (reflexes).
- Sensory development and Sensory Processing - Sensation, Perception and Specific sensory perceptual development. – Hearing, smell, taste, touch, vision, proprioception and vestibular sense. Perceptual Development –visual perception,color perception, face perception, auditory perception, touch, tase and semll perception and balance.

**Unit 3: Cognitive Development**

10 Hours

Theories of cognitive development, - Piaget, Neo-Piagetian, Vygotsky’s theory, Whorl’s hypothesis and Information Processing Theories.
Stages of cognitive development - Typical development of cognitive skills during the early years.
Factors influencing cognitive development. – biological and environmental.

**Unit 4: Social and Emotional Development**
12 Hours

- Concepts and theories of social and emotional development – Erikson’s theory.
- Typical development of social and emotional skills in the early years.
  Factors influencing social –emotional development – temperament, play, attachment, parenting behavior, and challenging conditions.
  Disturbances in social – emotional development.
- Signs of emotional distress, child abuse and neglect.

**Unit 5: Speech, language and communication development**
10 Hours

Definitions, components, functions of and relations between speech, language, communication and audition.

Theories of Language acquisition – Behaviorist, Nativist – syntactic, biological, Semantic/Cognitive and Sociolinguistic.

Language acquisition in a typically growing child – prerequisites and development of auditory behaviour.

Milestones of language acquisition and development through toddler, preschool and school years.

Language and Cognition.

**References**

OBJECTIVES:

- To acquire the ability to assess children’s cognitive, social, emotional, communication and motor development.
- To acquire the ability to select and use a variety of assessment instruments/tools and procedures.
- To acquire ability to assess and communicate the assessment results to parents and families.
- To acquire ability to develop, implement and evaluate individualized Early Intervention programme.

Unit 1: Assessment 12 Hours

Introduction to Assessment- Definition, purposes, methods of collecting data.
Introduction to assessment tools used in Early intervention, selection of assessment tools, administering and communicating assessment results
Informal and formal assessment tools/instruments - Norm referenced, criterion referenced, curriculum referenced.
Observational methods, family-centred assessment, involving families as active participants in assessment progress.

Unit 2: Introduction to Assessment of Specific Domains 10 Hours

- Assessment of motor skills in children aged 0 to 6 years
- Assessment of communication skills in children aged 0 to 6 years
- Assessment of cognitive skills in children aged 0 to 6 years
- Assessment of social skills in children aged 0 to 6 years
- Assessment of emotional skills in children aged 0 to 6 years.

Unit 3: Introduction to Diagnostics 12 Hours

Multidisciplinary approach to Diagnosis
Methods in Diagnosis, Procedures - Interview, Observation and Investigation

Unit 4: Individualised Early Intervention Programming 12 Hours

- Development and implementation of the individualised early intervention programme (IEIP) and individual family service plan IFSP.
Individual versus Group Therapy – advantages and limitations.
- Intervention strategies- Prompting and Fading, Modelling and Imitation, Demonstration, Task analysis, Shaping and Chaining.
- Reinforcement - types of reinforcers, schedules of reinforcement,
- Play activities, music and peer tutoring.

Unit 5: Outcome Evaluation 10 Hours

- Definition of evaluation, difference between assessment and evaluation.
- Types of evaluation-formative, summative.
- Programme monitoring, summarizing and evaluating the acquisition of child and family outcomes.

References
5. P.Karanth. 2007 Communication DEALL Developmental Checklists. The Com DEALL Trust, Bengaluru
**PGDEI 104: PRACTICALS:**

*Case history and developmental assessments*

No. of Hours: 200
No. of marks: 50+50

**Objectives:**

At the end of the year the student is expected to

- Take case history of an infant and toddler and preschooler.
- Assess the child using developmental scales and communicate the assessment results to parents and family.

**Procedure:**

- Detailed case history of children below 3 years in 3 cases.
- Developmental assessment of 10 children at risk or with developmental disabilities in the age range of 0-3 years.
SEMESTER II
PGDEI 201: THERAPEUTICS

No. of Hours: 56
No. of marks: 70+30

OBJECTIVES:

- Identify deviations in specific areas of development.
- To acquire ability to assess and communicate assessment results to parents and families.
- To acquire ability to develop, implement and evaluate Individualized therapeutic programme.
- Identify appliances/assistive devices.

Unit 1: Basics of Physiotherapy

Introduction to physiotherapy

- Fundamental Concepts, theories and principles in physiotherapy.
- Examination of motor system and determining need for therapy, methods of evaluation.
- Identifying therapeutic goals, techniques of intervention, achieving typical milestones & record keeping.
- Organization of services, multidisciplinary team work, intervention for multiple handicaps.
- Use of aids and appliances.

Unit 2: Basics of Occupational Therapy

Introduction – to occupational therapy, concepts and theories

- Performance components, Sensory processing, Motor performance (Posture, hand function, etc.), Occupational components, Breathing, Feeding and Play.
- Determining need for therapy, setting therapy goals, Selecting techniques and Identifying appliances/assistive devices
- Intervention strategies- Sensory integration- posture, positioning, breathing, feeding, eating, sensory perception and Intervention for multiple handicaps.
- Methods of evaluation and record keeping.

Unit 3: Basics of Speech, Language and Communication

- Orientation to common auditory disorders in children - identification & screening of hearing loss in children, referral process, basic hearing aid usage, auditory training
- Language and Communication problems associated with motor disorders, sensory deficits, CNS dysfunction, cognitive disorders, etc.
- Assessment, intervention and evaluation.
- Initial & on-going assessments - strategies, linking assessment and intervention, multi axial procedure, descriptive Proforma, communicating assessment details to other professionals, etc.
- Infants at-risk general readiness, reciprocal actions, socio-communicative signals, early comprehension, early production, prevention of rhythm & voice disorders, etc.
- Language and communication intervention - philosophy in intervention, nature of disorders and different method of classification of children, theoretical bases of intervention - model, principles, content, context, procedures.

**Unit 4: Inter-professional communication**

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<td>Philosophy in intervention,</td>
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<tr>
<td>Nature of disorders &amp; different methods of classification of children, Theoretical basis of intervention - model, principles content, context, procedures.</td>
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**Unit 5: Recent trends and issues**

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<td>Organization of services,.</td>
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<td>Multidisciplinary team work.</td>
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<tr>
<td>Available resources &amp; utilization.</td>
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<tr>
<td>Local adaptations, Social adaptations (culturally appropriate).</td>
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<td>Research.</td>
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</table>

**References**

**General**


**Physiotherapy**


**Occupational therapy**

**Speech therapy**
PGDEI 202: FAMILY AND COMMUNITY  
No. of Hours: 56  
No. of marks: 70+30

OBJECTIVES:

- To understand family systems, dynamics, roles and relationships within family and community.
- To assist families to identify resources, priorities and concerns in relation to child’s development.
- To acquire competency to evaluate services with families.
- To acquire ability to design process and strategies that support transition.

Unit 1: Parents and family  
12 Hours

- Introduction – Family types, functions and changing families.
- Impact of a child with developmental delays on family - parental attitudes, parent-child interactions, self-esteem, parental stress and depression.
- Family support, family resources, Family strengths, family needs and family coping and adaptive mechanism. Parent training programmes, parent to parent support programmes.

Unit 2: Community  
12 Hours

- Role of community in the field of Early intervention - community culture, values and attitudes.
- Community awareness programs, Linkages of EI to other community programs.
- Working in collaboration with other professionals and agencies, inter agencies and referral in larger community.

Unit 3: Organizing early intervention services  
12 Hours

- Service delivery models/settings, functions of team.
- Organization and development of program in the community.
  - Establishing linkages with pre-school based on development and learning experiences and teaching strategy.

Unit 4: Legislative support for rehabilitation  
10 Hours

Mental Health Act (1989),
RCI (1992),
PWD (1995),
National Trust (1999),
RTI Act (2005),
Consumer Protection (1986),
FCRA,
Code of Ethics, UNCRPD

Unit 5: Approaches to Service Delivery  10 Hours
- Institution based, camp-based, community based and role of NGOs
- Review of services in India including ICDS, DRC, DDRC, NPPCD, SSA and NRHM
- Integration of Disabled into the community and International classification of functionality and Health (ICF 2001)

References
PGDEI 203: PRACTICALS:
Therapeutics Assessment, Intervention and Evaluation

No. of Hours: 180
No. of marks: 50+50

Objectives:
At the end of the year the student is expected to:

- Assess and plan an appropriate intervention program in the areas of physiotherapy, occupational therapy, speech language and communication and cognitive, social and emotional development.
- Evaluate the outcome of intervention and submit the report.

Procedure:
- Students will be given orientation on assessment in all therapies (PT, OT, ST)
- Students will assess infants and toddlers under supervision and plan for remediation programme.

At the end of practicals the students will make submissions of 6 case records

- 2 cases for physiotherapy and occupational therapy
- 2 cases for speech, language and communication
- 2 cases for cognitive, social and emotional development.
PGDEI 204: PRACTICALS:

Individualised Family Assessment & Individualized Early Intervention Programme

No. of Hours: 180

No. of marks: 50+50

Objectives:
At the end of the year the student is expected to:

- assess the families of infants and toddlers using family assessment checklist.
- carry out comprehensive assessment of the child and family and write the assessment reports.
- plan and implement individualised early intervention programme.
- evaluation of the IEIP

Procedure:
- the students are expected to make home visits and assess individual families.
- submit the assessment report with planning of the intervention programme for 2 cases of infants and toddlers.
- comprehensive assessment of child and family.
- writing the assessment report and communicating assessment results to the family.
- planning and implementing IEIP.
- evaluating IEIP and documenting the results and presentation of cases.
- Submission of records of 4 cases.