

# **Course Curriculum on Bachelor in Rehabilitation Therapy**

**2003**

**Rehabilitation Council of India  
B-22, Qutub Institutional Area  
New Delhi – 110 016  
Bachelor in Rehabilitation Therapy  
(Course Curriculum)**

## 1.0

### INTRODUCTION

The curriculum for the 4 years Bachelor in Rehabilitation Therapy, has been drafted with the overall objective to prepare a suitable manpower in the field of rehabilitation who can provide the rehabilitation therapy at the district level which is very much lacking at the present, as well as act as a first level referral point for the grass-root. In addition it can also take care of the training programmes of community worker at the grass-root level.

Since the student has to be imparted knowledge about the various common disabilities viz. Locomotor, Speech, Hearing, Visual, Mental Retardation, Learning & Multiple disabilities, it may be necessary at the operational level to involve a number of institutes dealing with the respective disability groups, especially, in terms of practical training and internship. Therefore, the course curriculum has been framed in modular form.

It is commonly assumed that there are 210 working days in a year including the days earmarked for admissions and examinations. It is presumed that there will be minimum of 180 days for theory and practical teaching in a year and presuming 6 working hours a day, the total number of working hours in a year will be – (180 x 6 = 1080 hours).

Based on this, the 4 years course of Bachelor in Rehabilitation Therapy has been divided into 8 modules of 90 days (540 hours) each. The distribution of working hours for the theory and practical is given below:

S.No.	Module	Days x Hours	Total Hours
1.	Core Course I	90 x 6	540
2.	Core Course II	90 x 6	540
3.	Locomotor disability	90 x 6	540
4.	Speech & hearing disability	90 x 6	540
5.	Visual impairments & Rehabilitation	90 x 6	540
6.	Mental retardation, and learning disability	90 x 6	540
7.	Multiple disability	90 x 6	540
8.	Internship <ul style="list-style-type: none"><li>• Locomotor disability</li><li>• Hearing &amp; speech disability</li><li>• Visual disability</li><li>• Mental Retardation &amp; Learning disability</li><li>• Multiple disability</li></ul>	30 x 6 = 180 hrs. 20 x 6 = 120 hrs. 10 x 6 = 60 hrs. 16 x 6 = 96 hrs. 14 x 6 = 84 hrs.	
The ratio of theory to practical will be 40:60			

## 2.0 OVERALL OBJECTIVES

A graduate course in Rehabilitation Therapy designed to impart student knowledge and skill rehabilitation therapy so that he can deliver rehabilitation therapy to the persons with various common disabilities.

The knowledge so imparted will make the candidate suitable to deliver the services at the middle level (district level) and act as first level training & referral rehabilitation professional for the grass root/primary rehabilitation care.

## **2.1 GENERAL OBJECTIVES**

### **2.1.1.**

To promote understanding of situation and needs of people with disabilities in rural as well as urban and slum areas and for persons with disabilities marginalized by poverty.

### **2.1.2.**

To develop an understanding to prevent disabilities, involvement of the families, community, the person with disability and the existing health infrastructure.

### **2.1.3.**

To understand and develop skills for imparting rehabilitation therapy viz. by use of physical agents and use of functional aids, principles and practice of speech training and sign language, training in use of ambulatory aids and other appliances, mobility training, Braille system, psycho educational assessment and programme planning, special education principles for developing teaching strategies, management of problem behaviour, self care and independence training, employment opportunities, CBR concepts and approach and working with the parents, families and communities.

### **2.1.4.**

To develop necessary skills for training of volunteers in rehabilitation for therapy especially in the context of CBR.

## **2.2 LEARNING OBJECTIVES (Skills acquisition)**

### **2.2.1**

#### **DISABILITY & RELATED ISSUES**

To learn about situation and needs of people with disabilities, political issues, empowerment of people with disabilities, social and economic status of Persons with Disability (PWD), attitudes to disability, legislation and disability, participatory development. Disability types and causes, prognosis, identification of disabilities – early signs, screening tests, prevention of disabilities – health education/ first aid and safety, prevention of secondary disability, concept of health delivery system and rehabilitation models.

### **2.2.2.**

#### **TECHNICAL SKILLS**

To learn basic anatomy, physiology, pathology, biomechanics, concept of growth & development, clinical assessment, goals/ task analysis, training for positioning and support, exercise therapy, thermo therapy, mobility at home, public transport and in community, pre & post operative evaluation & therapeutic skills, self care and independence training at home, school, work place and community, assistive devices, splints, braces, orthoses and prostheses.

- Assessment, training maintenance & follow up.

Psychological phenomena, their measurement, guidance, counseling & rehabilitation.

Visual Problems – Functional assessment, education, teaching & use of Bharti Braille, Orientation & mobility skills, role of special school, integration in crafts & sports.

Communication Problems – Identification & assessment, instrument for testing & their use, interpretation of audiogram, hearing aids, assistive devices & ear moulds, auditory training, language & speech therapy.

### **2.2.3.**

#### **PERSONAL SKILLS**

To develop skills in working with parents of disability families and community, use of learning/training materials esp, CBR manuals, basic counseling & interpersonal skills develop problems solving skills, developing & promoting human values, working with other sectoral agencies, net working skills, basic level skills with local bodies, referrals, promoting, educational, vocational & social integration, research methodology, statistics, computer & internet.

### **2.2.4.**

#### **SERVICE SYSTEMS**

Rehabilitation Systems – IBR & CBR concepts & approaches information gathering, surveys, basic record keeping, report writing, devising individual plans & evaluating progress, supporting, training & supervising community level workers, Referrals & co-ordination with other agencies, Monitoring & evaluation – reviews & discharges.

## **3.0 ELIGIBILITY FOR ADMISSION**

10 + 2 (PCB) with a minimum of 50% marks from a recognized board like CBSE or equivalent.

Candidates to be selected by holding a written examination to test their knowledge & aptitude by interview, to be held on all India basis/ or by the institution.

## **4.0 AGE FOR ADMISSION**

A minimum of 17 years at the time applying for admission.

## **5.0 MEDIUM OF TEACHING**

English.

## **6.0 OTHER CONSIDERATIONS**

A minimum of 10 to 20 candidates per batch will be admitted by the implementing agency.

Preference should be given to candidates belonging to the region, where the implementing agency is located.

Reservation for special categories should apply as per Government rules.

## **7.0 EXAMINATION**

The objective of the examination is to assess the knowledge and skills of the candidate in the practice of rehabilitation therapy. The knowledge is evaluated by theory examination. The skill is evaluated by practical & clinical examination.

40% weightage will be given to theory and 60% to practical marks.

The examinations will be conducted at the end of each modules/ semester.

## 7.1 EXAMINATION SCHEME

### MODULE-I – CORE COURSE-I

Paper	Name of the Paper	Hours	Theory Marks	Practical Marks	Total
Paper-I	Human Anatomy	3 hours	40	60	100
Paper-II	Human Development	3 hours	40	60	100
Paper-III	Psychology, Sociology & Counselling	3 hours	40	60	100
	Total		120	180	300

### MODULE-II – CORE COURSE-II

Paper	Name of the Paper	Hours	Theory Marks	Practical Marks	Total
Paper-I	Disability & Rehabilitation	3 hours	40	60	100
Paper-II	Research Methodology	3 hours	40	60	100
Paper-III	Statistics	3 hours	40	60	100
	Total		120	180	300

### MODULE-III – LOCOMOTOR DISABILITY

Paper	Name of the Paper	Hours	Theory Marks	Practical Marks	Total
Paper-I	Introduction to Disability	3 hours	40	60	100
Paper-II	Physical Agents & Exercise Therapy	3 hours	40	60	100
Paper-III	Therapeutic Activities, Functional Training, Aids & Appliances	3 hours	40	60	100
	Total		120	180	300

### MODULE-IV – HEARING & SPEECH IMPAIRMENTS

Paper	Name of the Paper	Hours	Theory Marks	Practical Marks	Total
Paper-I	Audiology & Aural Rehabilitation	3 hours	40	60	100
Paper-II	Speech & Language	3 hours	40	60	100
Paper-III	Management of Speech & Language Disorders	3 hours	40	60	100
	Total		120	180	300

## MODULE-V – VISUAL IMPAIRMENTS & REHABILITATION

Paper	Name of the Paper	Hours	Theory Marks	Practical Marks	Total
Paper-I	Eye & Eye Care	3 hours	40	60	100
Paper-II	Psycho-social Implications of Blindness and Visual Impairment	3 hours	40	60	100
Paper-III	Education of Visually Impaired & Low Vision Children	3 hours	40	60	100
	Total		120	180	300

## MODULE-VI – MENTAL RETARDATION & LEARNING DISABILITY

Paper	Name of the Paper	Hours	Theory Marks	Practical Marks	Total
Paper-I	Mental Retardation & Learning Disability	3 hours	40	60	100
Paper-II	Assessment and Curriculum Development	3 hours	40	60	100
Paper-III	Management of Children with Mental Retardation and Children with Learning Disability	3 hours	40	60	100
	Total		120	180	300

## MODULE-VII – MULTIPLE DISABILITY

Paper	Name of the Paper	Hours	Theory Marks	Practical Marks	Total
Paper-I	Rehabilitation Therapy, Cerebral Palsy and other Neurological conditions	3 hours	40	60	100
Paper-II	Needs Assessment: Persons with Disability, Family and Community	3 hours	40	60	100
Paper-III	Holistic Approaches to working with Persons with Multiple Disability	3 hours	40	60	100
	Total		120	180	300

## 8.0 ATTENDANCE

No candidate shall be permitted to appear in any one of the module/ semester of the course, unless,

- i) He/she has attended the course in the subject for the prescribed period in the affiliated institution recognized by the RCI, and produces necessary certificate of study, and satisfactory conduct certificate from Head of the Institution.
- ii) A candidate is required to put in minimum 80% of attendance in both theory & practical separately in each module/ semester, before being allowed to appear in the examination.

## 9.0 QUALIFYING MARKS

A minimum of 40% in each theory paper with an aggregate of 50% in all theory papers for each module/ semester. The passing minimum for each of the practicals may be prescribed as 50%. The institution may adopt a combination of internal and external system or external system only for evaluation.

The student who fails in one paper may be allowed to appear in the particular paper only for a maximum of 2 times, if the student fails to pass the examination after 2 appearances, he will be expected to appear in all the papers again.

## 10.0 TEACHING FACULTY

1.	Reader or equivalent in any area Disability Rehabilitation	1 (one) full time	Course Co-ordinator
2.	Lecturers in five areas of Disability viz., LH, HI, VI, MR, LD	5 (five) full time – one in each area of specialization	
3.	Teachers & Trainers	2 (two) for each disability area – part time,	
4.	Visiting faculty for teaching basic Medical Science & other topics	Part time – as per requirement.	

## 11.0 LIBRARY

A library equipped with basic books on various disabilities, basic sciences, social, psychological and vocational rehabilitation should be a pre-requisite.

In addition, useful video on DPR will be preferred.

## 12.0 EQUIPMENTS

Basic diagnostic & therapeutic equipment related to disabilities taught should be available.

## 13.0 INTERNSHIP

Every candidate admitted to Bachelor in Rehabilitation Therapy shall compulsorily undergo internship training as per schedule given at Annexure – I, after/ he she has passed in all the papers of all the 7 modules/ semesters. The Heads of the Institutions shall issue a certificate of successful completion of internship to each candidate after satisfying that the candidate has completed the training programme and has acquired the skills to function independently.

## 14.0 AWARD OF BACHELOR IN REHABILITATION THERPAY

The Bachelor in Rehabilitation Therapy shall be awarded by the admitting institution after the candidate has qualified in all the modules/ semester and completed the internship successfully.

## 15.0 CURRICULUM

Detailed curriculum is appended at Annexure – I.

## 16.0 MISCELLANEOUS

Before the RCI grants recognition to the institute for starting the course, the Institute itself should ensure that ample job opportunities exist or provision made thereof in order to avoid wastage of time, money and talent.

**BACHELOR IN REHABILITATION THERAPY**

**MODULE-I - CORE COURSE I**

**INSTRUCTION HOURS - 540 Hrs.**

**THEORY/ PRACTICAL RATIO - 40:60**

**PAPER-I - HUMAN ANATOMY**

**PAPER-II - HUMAN DEVELOPMENT**

**PAPER-III - PSYCHOLOGY, SOCIOLOGY & COUNSELLING,**

**OBJECTIVES**

- (a) To give basic knowledge about structure & function of human body necessary in practice of rehabilitation therapy.
- (b) To give basic information on the principles of human growth and development and on psychological processes, their normal and maladaptive aspects.
- (c) To demonstrate application of principles of psychology, and tools used in the rehabilitative process.
- (d) To give information on the sociological concepts, community resources, benefits available from the government and guidance & counseling skills.
- (e) To give information on the genesis of disability, its types, causes, prevention & identification and rehabilitation approaches.



## MODULE - I

### CORE PAPER – I HUMAN ANATOMY (180 HOURS)

<b>UNIT – 1</b>	<b>24 Hrs.</b>
- General introduction to various systems of body & their basic functions.	3hrs
- Terminology, movements, planes & relationships of body parts.	3hrs
- Cell, its structure function, types of cells.	3hrs
- Cell, tissue, organs & system.	3hrs
- Gross structure & function of the central nervous system & peripheral nervous system.	6hrs
- Gross structure & function of musculo-skeletal system.	6hrs

<b>UNIT – 2</b>	<b>24 hrs</b>
- Structure & function of muscle tissue	3hrs.
- Classification of joints & their structure.	3hrs
- Osteology of upper limb.	2hrs
- Myology of upper limb.	2hrs
- Osteology of lower limb	2hrs
- Myology of lower limb	2hrs
- Osteology of Trunk	2hrs
- Myology of Trunk	2hrs
- Anatomy of Eye	2hrs
- Anatomy of Speech Mechanism	2hrs
- Anatomy of Hearing System	2hrs

<b>UNIT – 3</b>	<b>24 hrs</b>
- The respiratory system	1hr.
- The Cardiovascular system	1hr.
- The Gastro-intestinal system	1hr.
- The endocrinal glands	1hr.
- The genito urinary system	1hr.
- Reproductive & genetic system	1hr.
- Normal posture	2hrs
- Gravity and the body	2hrs
- The neural control of posture, balance & muscle tone	2hrs
- Motor learning and feedback mechanisms	2hrs
- Calcium and phosphorus metabolism	2hrs
- Effect of exercises on heart and lungs	2hrs
- The physiology of the eye	2hrs
- The physiology of the speech mechanism	2hrs
- The physiology of the hearing system	2hrs

#### PRACTICAL

1. Demonstration of parts of body and bony landmark on the surface.
2. Identification of cells and basic tissues.
3. Skeletal System, Identification of bones and joint.
4. Demonstration of interior of Thorax with organ in situ.
5. Demonstration of respiratory system and pleurae.
6. Demonstration of heart and great vessels.

7. Demonstration and identification of various organs within the abdomen.
8. Demonstration of spleen, pancreas and parts of urinary system.
9. Male genital system.
10. Female genital system.
11. Various reproductive organs.
12. Central nervous system, spinal level and peripheral level nervous system.
13. Surface anatomy of important organs.
14. Phenomenon of fatigue in human beings.
15. Determination of mechanical efficiency during difference grades of exercise.
16. Study of cardio-respiratory changes during exercise.
17. Blood pressure, pulse rate and effect of exercise.
18. TPR charts.

**NOTE: PRACTICAL MAY BE BY –**

1. Demonstration of specimens.
2. Drawing diagrams of labeling.
3. Demonstration of models and skeletons.

**REFERENCE BOOKS**

1. Human Anatomy Regional and Applied by B.D. Chaurasia, CBS Publisher & Distributor, New Delhi
2. Grant's method of Anatomy by Grant, Basmajian. Williams \* & Wilkines Company, USA, Baltimore.
3. Text Book of Neuro-Anatomy by Garg, CBS Publishers & Distributors, New Delhi
4. Neuro-Anatomy for Medical Students, P.G. Publishing. Singapore.
5. Text Book of Anatomy ;with coloured atlas by Inderbir Singh, JP Brothers Medical Publishers Ltd., New Delhi.
6. General Medical Physiology by Choudhary, New Central Book Agency.
7. Principles of Human Physiology by Davson, J & A Churchill Ltd. London.
8. Anatomy & Physiology by Kimber, The Macmillan Company, New York.
9. Principles and Practice of Medicine by Davidson, E.L.B.S. Low Priced Edition
10. Applied Kinesiology and Biomechanics by Jensen, Schultz, Bangerter Mac Graw Hill Book Company, New York.

**MODULE – I  
CORE PAPER-II**

**HUMAN DEVELOPMENT(180 HRS)**

<b>UNIT – 1</b>	<b>36Hrs</b>
- Introduction to human development	4hrs
- Gross motor development	6hrs
o Principles of development, milestones	
o Primitive reflexes, and automatic reactions	
o Righting & equilibrium reflexes	
o Development of mature reflexes & voluntary control	
- Fine motor development	10hrs
o Principles of development, milestones	
o Types of grasp	
o Importance of trunk and head control in fine motor development	
- The development of drawing and writing	8hrs
- Developmental milestones of daily living skills	8hrs
o Bladder & bowel control	
o Prefeeding & feeding	
o Dressing	
o Bathing	
o Grooming	
<b>UNIT-2</b>	<b>36hrs</b>
- Cognitive development	4hrs
o Milestone, theories of development	
- Perceptual development	6hrs
o Body image, spatial relation-form perception, figure ground perception, motor basis of learning.	
o Importance of intersensory integration, perceptual process	
- Generalisation	6hrs
o Speech, language & communication	
o Development & relationship to vegetative functions	
- Language mediation for motor development	4Hrs
- Social & emotional development	6hrs
o Infancy, childhood & adolescence	
- Development of play in 0-6 year	6hrs
o Types of play and its importance	
- Visual development	2hrs
o Eye movements, tracking, accommodation & convergence, acuity	
- Development of hearing	2hrs

## **PRACTICAL**

- 5 case studies related to
  - assessment of motor skills development
  - assessment of ADL, development
  - assessment of perceptual skills development
  - assessment of speech and language development
  - assessment of cognitive development
  
- Project placement

## **REFERENCE BOOKS**

1. Child Development by Hurlock E.B., International Book Co.
2. Neurological Evaluation of Infant Child by Baird H.W. & Garden E.C., William Heineman.
3. Motor Development in Children by Braitta & Holle, Black Well Scientist.
4. Early Intervention Development Profile, Rozar & S.J., University of Michigan.
5. Infants in Crisis by Glenn Affleck H.T., Springer Ver Leg.
6. Child Development by Murray Krantz, Wadsworth Publication.
7. Berk, L.E., (1980) Child Development, Boston, Allyn & Bacan
8. Johson, J.H. and Goldman, J.(1990). Developmental Assessment in Clinical Child Psychology. Pergamon Press, Inc.
9. Panda K.C.& Panda, N. (1997). Elements of development and growth of a child. New Delhi: reliance Publishing House.
10. Rosser, R (1994). Cognitive Development. Psychological & Biological perspectives, Boston: Allyn & Bacon.

## MODULE – I

### CORE PAPER – III

#### PSYCHOLOGY, SOCIOLOGY & COUNSELLING (180 HOURS)

##### UNIT – 1 PSYCHOLOGY

24 Hrs.

- Nature, definition & scope of psychology 2hrs
- Sensation, attention, perception & motivation 2hrs
- Concept & meaning of intelligence, individual differences 4hrs
- Theories of intelligence, measurement of intelligence & aptitude testing 4hrs
- Meaning, concept & dimensions of personality 2hrs
- Theories and assessment of personality 4hrs
- Frustration & conflict, adjustment mechanisms 2hrs
- Problem behaviour, its identification & management 4hrs

##### UNIT – 2 SOCIOLOGY

24 Hrs.

- Definition, nature & scope of sociology. 1hr
- Marit society, society & community, process of socialization. 1hr
- Social system. 1hr
- Social groups: meaning & classification. 1hr
- The rural & urban community of India and their characteristics, changes and developmental projects 2hrs
- Social change, social disorganization 1hr
- Social welfare planning in India 1hr
- Traditional & modern society 1hr
- Developing and promoting human values 1hr
- Sociology of disability. 1hr
- Working with families in the community & family 2hrs
- Understanding parents & family perspectives 2hrs
- Assessment of needs and resources of parents & family as a whole 2hrs
- The problem of solving process 2hrs
- Techniques of working with families (training, counseling, etc.) 2hrs
- Developing communication skills 1hr
- Parent training programmes 1hr
- Involvement of siblings & peer group 1hr

##### UNIT – 3 GUIDANCE & COUNSELLING

24Hrs.

- Nature, meaning & scope of guidance & counseling 4hrs
- Role of home & type school in guidance & counseling 4hrs
- Techniques of guidance & counseling with reference to disabled 4hrs
- Vocational guidance for disabled 4hrs
- Individual problems and stress management through counseling 6hrs

1. Assessment Techniques
  - Case history taking & interview
  - Observations
  - Measurement of intelligence & scholastic achievements
  - Measurement of perceptual functioning
  - Measurement of personality
  - Measurement of aptitude
  - Measurement of problem behaviour
2. (5) field assignments, visiting different communities/organizations & reporting
3. Placement with social worker and psychologist and to observe guidance and counselling techniques and reporting

**REFERENCE BOOKS**

1. Wallace, P.M. & Goldstein, J.M. (1994). An introduction to Psychology (3<sup>rd</sup> edition). Madison: Brown & Benchmark Publishers
2. Mc.Connell. J.V. & Philapchel, R.P. (1992). Understanding human behaviour Philadelphia: Harcourt brace, Jovanovich College Publishers.

3. Alberto, P.A. & Trontman, A.C.(1995). Applied Behaviour analysis for teachers. (4<sup>th</sup> edition). London: Merrill IPublishing Company.
4. Desai A.N. (1990). Helping the handicapped: Problems and prospects, New Delhi Ashish Publishing House.
5. Gallagher, J.J. & veitz., P.M. (199\86). Families of handicapped persons. Baltimore: Brooks Publishing Co.
6. Klein, S.D. & Schleifer, NM.J. (Eds) (1993). It isn't fair, Siblings of children with disabilities. London: Bergin & Garvey.
7. Langness; L.L. & Levine. H.G. (1986). Culture and retardation. Boston : De Reidel Publishing Company.
8. Peshawaria, R, Menon D.K. Ganguly, R. Roy, S Pillay, R.P.R.S. & Gupta, A (1995). Understanding Indian Families having persons with mental retardation, Secunderabad: National Institute for the Mentally Handicapped.
9. Webster, E.J. Vikas Publishing House(1993). Working with parents of young children with disabilities. California: Singular Publishing Group.
10. Laxmi Encyclopedia Guidance and Counselling.
11. Wolfensberger, W.(1967). Counselling the Parents of the retarded Chicago Algine.
12. Jim Gumaer. Counseling and Therapy for Children. Charles E. Merril
13. Robertson, S.E. & Brown, R.L.(1985) Edrs. Rehabilitation Counselling, education series 5. Brooks Publishing Co.
14. Standford, E.et.al (1987) Foundation of the vocational rehabilitation proves. Third edition, Autin – Oakes Bonleward Publications.
15. Wehman, S.E. & Brown, R.I, (1985) (Edrs) Rehabilitation Counselling – education series 5 Brookes Publishing Co.
16. Mc Conkey Rpy., Working with Parent, Groom Croom Helen
17. Narayana Rao, Counselling ;and Guidance
18. Banton, M.: Roles: An Introduction to the Study of Social Relations
19. Capra, Fritzof (1982) : The Turning Point, Science, Society and the Rising Culture, flamingo, Fontana Paperbacks, 1989.
20. Davis K.: Human Society, 1948 (Macmillan, New York).
21. Johnson, H.M.: Sociology: a systematic introduction, 1961 (Routledge and Kegan Paul).
22. Macionis, John J. (4<sup>th</sup> Edn. 1998) : Society, the Basics, Prentice Hall, New Jercey, USA
23. Mitchell, G.D.(Edn): A Dictionary of Sociology, 1968 (Routledge and Kegan Paul).

## **BACHELOR IN REHABILITATION THERAPY**

**MODULE-II - CORE COURSE II**

**INSTRUCTION HOURS - 540 Hrs.**

**THEORY/ PRACTICAL RATIO - 40:60**

**PAPER-I - DISABILITY & REHABILITATION**

**PAPER-II - RESEARCH METHODOLOGY**

**PAPER-III - STATISTICS**

### **OBJECTIVES**

- (a) To give information on the genesis of disability and causes
- (b) To give information on types of disability
- © To give information on identification and prevention
- (d) To give information on the rehabilitation approaches
- (e) To give information on research methodology and statistics



## MODULE-II

### CORE PAPER-I DISABILITY AND REHABILITATION (180 HRS)

<b>UNIT – 1 PREVENTIVE &amp; COMMUNITY MEDICINE</b>	<b>24 Hrs</b>
- Concept of health, health & illness	2hrs
- Contributing factors influencing health	3hrs
- Personal & environmental hygienic & health	3hrs
- Atmospheric pollution, effect on health, prevention & control	4hrs
- Concept of preventive medicine & community health	4hrs
- Public health organizations & services in India	4hrs
- Food & nutrition	4hrs

<b>UNIT – 2 DISABILITY &amp; RELATED ISSUES</b>	<b>24 Hrs</b>
- Disability, attitudes to disability, misconceptions, beliefs etc.	2hrs
- Situation, reciprocal attitudes/ needs of persons with disability	2hrs
- Issues related to rural/ urban slums	2hrs
- Socio economic status of disabled persons: empowerment in Indian & Global contexts	2hrs
- Participatory development	2hrs
- The disabled person, family dynamics and the community	4hrs
- Main streaming of the disabled	2hrs
- Access, services, special schemes, public facilities, concessions etc.	4hrs
- Legislation and disability	4hrs

<b>UNIT – 3 CAUSES &amp; PREVENTION OF IMPAIRMENTS</b>	<b>24 Hrs</b>
- Disability: genesis, magnitude, futuristic trends	2hrs
- Disability types and causes	1hr
- Disability limitation & prevention	1hr
- Preventable disabilities: strategies & approaches	1hr
- Early detection & intervention	2hr
- Rehabilitation: Definition, aims, objectives & Philosophy of rehabilitation	1hr
- Rehabilitation approaches and systems	2hrs
- Different models of service delivery	4hrs
- Community based rehabilitation: concepts & approaches	2hrs
- Information gathering: surveys, record keeping, report writing, community resources	2hrs
- Devising individual programme, plans & evaluating progress	4hrs
- Monitoring needs, reviews, discharge, communication, participative evaluation	2hrs

### **PRACTICAL: 108 HRS**

1. Preparation of charts & posters related to preventive medicine.
2. Information gathering related to benefits and concessions available to disabled and the methods of obtaining them (Prepare check list of same).
3. Preparation of Charts and materials relating to disability prevention and rehabilitation.

4. Five visits to institutions dealing with different disabilities.
5. Placement with social worker for referrals

#### REFERENCE BOOKS

1. Frank J. Menolascino, Jack A Stark (1988), Preventive and Curative Intervention in Mental Retardation, Sydney: Brookes Publishing Co.
2. J.A.Fraser Roberts (1985), Introduction to Medical Genetics, ELBS/ Oxford University Press.
3. Abraham, M., Rudolph (1991) – Text Book of Pediatrics, 19<sup>th</sup> Ed., Prenticed Hall International Inc.
4. Mark L., Batshaw (1993) – The child with Developmental Disabilities. The Pediatric Clinics of North America, New York : W.B. Saunders.
5. John B. Boden Steiner (1992), Pediatric Neurology – The Pediatric Clinics of North America. New York : W.B. Saunders
6. Pandey R.S. & Advani L. (1995) Perspectives in disability and rehabilitation. New Delhi : Vikas Publishing House.
7. Werner David (1994) Disabled Village Children – A guide for community health workers, rehabilitation workers and families, New Delhi: Voluntary Health Association of India.
8. WHO (1989) Training in the community for people with disabilities, Geneva, World Health Organization
9. Punani, B. & Rawal Nandini, S. (1997) Manual : Community based rehabilitation Mumbai: National Association for the Blind.
10. NIMH (1988) Mental Retardation : A manual for village rehabilitation workers Secunderabad: National Institute for the Mentally Handicapped.

## MODULE – II

### CORE PAPER – II RESEARCH METHODOLOGY (180 HRS)

<b>UNIT – 1: NATURE OF RESEARCH</b>	<b>18 Hrs</b>
1. Meaning, definition and types: fundamental and exploratory, applied and action research.	4hrs
2. Need and scope of research in the field of disability and rehabilitation	4hrs
3. Science & scientific thinking.	2hrs
4. Need of research in the rehabilitation of people with disability.	4hrs
5. Problems faced by rehabilitation specialists in research.	2hrs
6. Qualities of good research worker in disability area.	2hrs
<b>UNIT – 2: PREPARING A RESEARCH PROPOSAL</b>	<b>18 Hrs</b>
<b>Introduction:</b>	<b>6hrs</b>
(a) Identification	
(b) Selection	
(c) Formulation	
(d) Statement of Problem	
(e) Limitation	
(f) Review of literature: needs & Important	
(g) Objectives: Primary & Subsidiary	
(h) Operational definition needs and significance	
Methodology and Procedure:	12hrs
(a) Population	
(b) Sample: Meaning & Definition	
(c) Sampling: Random, Satisfied and Purposive cum convenience	
(d) Hypothesis: Meaning, Definition, Types & Formulation	
(e) Variables: Meaning, Definition Types – Independent, Dependent and intervening	
(f) Tools: Questionnaire, Rating Scale, Checklist, Score-card	
(g) Test: CRT, NRT and Teacher Made Tests, Construction, Try out and Standardization	
(h) Techniques: Interview, Observation	
<b>UNIT – 3 : SAMPLING AND RESEARCH DESIGN</b>	<b>18hrs</b>
1. Population	2hrs
2. Factors determining sample size	4hrs
3. Techniques: Probability and non-probability	4hrs
4. Research design: Single case research design; Experimental designs	4hrs

5. Qualitative approach to research in special education 4hrs

**UNIT – 4: WRITING A RESEARCH REPORT 18hrs**

- 1.Style Manuals 1hr
- 2.Format of the Research Report 2hrs
- 3.The Thesis or Dissertation 2hrs
- 4.Style of Writing 1hr
- 5.Typing the Report 1hr
- 6.Reference Form 1hr
- 7.Pagination` 1hr
- 8.Tables 2hrs
- 9.Figures 1hr
- 10.Evaluating a Research Report 2hrs
- 11.Summary 2hrs
- 12.References 1hr
- 13.Additional Readings 1hr

**PRACTICUM 108 Hrs.**

Review and presentation of one research article in the area of disability

**REFERENCE BOOKS**

1. Aryg, D. Luck, C, and other (1972). Introduction to Research in Education. New York: Holt, Rinehart and Winston
2. Best, John. W. (1977). Research in Education New Delhi. Prentice Hall of India.
3. Kaul. L. (1996). Methodology in Educational Research. New Delhi: Vikas Publishing House
4. Kerlinger, N.A. (1978). Foundations of Behavioural Research. New York: Holt, Rinehart & Winston.
5. Mouly, G.J. (1963). The Science of Educational Research. New Delhi: Eurasia
6. Christensen, I.B. (1994) Experimental Methodology (6<sup>th</sup> Ed.) Bosten: Allyn and Bacon.

7. Kothari, C.R. (1990) *Research Methodology; Methods and Techniques* (2<sup>nd</sup> ed), New Delhi.
8. Machmias, D. and Machmias, C. (1981) *Research Methods in the Social Sciences*, New York: St. Martin's Press.

**MODULE –II**  
**CORE PAPER-III**  
**STATISTICS (180- HRS)**

<b>UNIT – 1: INTRODUCTION TO STATISTIC</b>	<b>18HRS</b>
1.Meaning	2Hrs
(f) Definition	2hrs
(g) Function	2hrs
(h) Limitation	2hrs
(i) Tabulation of Data	4hrs
(j) Graphic representation of Data	6hrs
<b>UNIT – 2: DESCRIPTIVE STATISTICS</b>	<b>18hrs</b>
1. Tabulation: Frequency Table	2hrs
2. Measures of Central tendency: Mean, Median, Mode	2hrs
3. Measures of dispersion and variability: Range, Quartile deviation and Standard deviation.	2hrs
4. Probability	2hrs
5. Properties of Normal Curve and its uses	3hrs
6. Skewness and Kurtosis	3hrs
7. Linear Correlation: Production moment and Rank difference methods	4hrs
<b>UNIT – 3: INFERENCE STATISTICS</b>	<b>18hrs</b>
1. Sampling: Types of sampling and errors due to sampling	3hrs
2. Standard error	3hrs
3. Testing the difference between means	3hrs
4. Confidence interval: Significance of mean, Standard deviation and Correlation	3hrs
5. Percentiles and Norms	3hrs

**UNIT – 4: APPLICATION OF COMPUTERS IN RESEARCH**

**18hrs**

Data Analysis

Searching of necessary references through Internet.

**PRACTICUM**

**108 hrs**

Review and presentation to two research articles in the area of disabilities.

**REFERENCE BOOKS:**

1. Ferguson, G.F. (1981). Statistical Analysis in Psychology and Education. New York: Mc Graw Hill
2. Guildord, J.P. (1995). Fundamentals of Statistics in Psychology and Education. New York: Mc Graw Hill
3. Popham, W.J. (1973). Educational Statistics use and Interpretation. New York: Harper & Row
4. Glass, G.V. and Hopkins, K.D. (1984) Statistical Methods in Education and Psychology (2<sup>nd</sup> ed.)
5. Hays, W.L. (1981) Statistics (3<sup>rd</sup> ed.), New York: Holt, Rinehart and Winston
6. Kaplan, A. (1913) Content Analysis and Theory of Sings. Phy. Sc., 10.p.230
7. Patton, M.P. (1982) Qualitative Evaluation Methods, London: Sage Publication.
8. Patton, M.R. (1990) Qualitative Evaluation and Research Methods (2<sup>nd</sup> Ed.) Newsbury Park CA: Sage.

## **DEGREE IN REHABILITATION THERAPY**

<b>MODULE-III</b>	-	<b>LOCOMOTOR DISABILITY</b>
<b>INSTRUCTION HOURS</b>	-	<b>540 Hours</b>
<b>THEORY/ PRACTICAL RATIO</b>	-	<b>40:60</b>
<b>PAPER-I</b>	-	<b>INTRODUCTION TO LOCOMOTOR DISABILITY</b>
<b>PAPER-II</b>	-	<b>PHYSICAL AGENTS &amp; EXERCISE THERAPY</b>
<b>PAPER-III</b>	-	<b>THERAPEUTIC ACTIVITIES, FUNCTIONAL TRAINING, AIDS &amp; APPLIANCES</b>



## MODULE-III

### PAPER – I

#### INTRODUCTION TO LOCOMOTOR DISABILITY (72 Hours)

[GENERAL CONSIDERATION, MEDICAL & SURGICAL CONDITIONS, DISABILITY PROCESS, BIOMECHANIC & KINESIOLOGY]

#### OBJECTIVES

After studying this paper students will be able to:

1. narrate the magnitude of the problem of persons with locomotor disability/ disorders affecting locomotor systems.
2. describe the causative factors for locomotor disability/ disorders – Medical conditions.
3. describe the causative factors for locomotor disability/ disorders – Surgical conditions.
4. demonstrate ability to use assessment devices for persons with locomotor disability.
5. describe the possible preventive measures to be undertaken to minimize the incidence of locomotor disabilities.

#### COURSE CONTENT

##### UNIT – 1: INTRODUCTION, DISABILITY PROCESS & CAUSATIVE FACTORS (10 Hours)

- |     |  |       |
|-----|--|-------|
| 1.1 | Magnitude of problem of locomotor disability   | 2hrs. |
| 1.2 | Disability genesis congenital and acquired causes.   | 2hrs  |
| 1.3 | Disease/ disorder, pathology, sign, symptoms, diagnosis, prognosis, morbidity and mortality. | 6hrs  |

##### UNIT – 2: GENERAL MEDICAL CONDITIONS (20 Hours)

- |     |  |       |
|-----|--|-------|
| 2.1 | Neurology – Elementary description of the following neurological conditions, hemiplegia, paraplegia, quadriplegia, polio myelitis, parkinsonism, ataxia, peripheral nerve lesions, myopathy, epilepsy.   | 4hrs  |
| 2.2 | Pediatrics – Normal milestone of development, immunization, congenital deformities, cerebral palsy, nutritional deficiencies.  | 4hrs  |
| 2.3 | Skin – Leprosy, causes, prevention, types and management.  | 2hrs  |
| 2.4 | Medical conditions – tuberculosis, pneumonia, asthma, bronchitis, common peripheral vascular disorders, heart disease, hypertension, cancer, aging & degenerative disorders, osteoporosis, connective tissue disorder rheumatoid arthritis, ankylosing spondy-litis etc. HIV and AIDS. | 4hrs  |
| 2.5 | Psychiatric conditions – Anxiety, Mood disturbances on Schizophrenia, obsessive compulsive neurosis, organic psychosis.  | 4hrs  |
| 2.6 | Problems of old age & prevention of old age disabilities.  | 2hrs. |

##### UNIT - 3: SURGICAL CONDITIONS (20 Hours)

General Surgery/Plastic Surgery

- |     |   |     |
|-----|---|-----|
| 3.1 | Abdominal surgery -scope of various procedure | 1hr |
| 3.2 | Shock   | 1hr |

3.3	Cardiothoracic surgery	1hr
3.4	Bums complications and scope of corrective surgery.	1hr
3.5	Amputation, levels, types & complications, peripheral vascular diseases.	1hr
3.6	Surgery in gynecology.	1hr
3.7	Head Injury	1hr
3.8	Congenital deformities CTEV, AMC, scoliosis, torticollis	1hr
3.9	Clinical features of fracture, dislocation and soft tissue injury, General principles of treatment.	2hr
3.10	Spinal injuries.	1hr
3.11	Bone and joint infections.	1hr
3.12	Backpain, neck pain.	1hr
3.13	Sports injuries	1hr
3.14	Peripheral nerve injuries	1hr
3.15	Degenerative problems of joints	1hr
3.16	Limb anomalies and spinabifida	1hr
3.17	Principles of operative treatment	1hr
3.18	Residual polio -problems & management	2hr

**UNIT - 4: (15 Hours)**

4.1	Biomechanics	2hrs
4.2	Kinesiology	2hrs
4.3	Human locomotion	3hrs
4.4	Grading of muscle power by manual muscle testing	3hrs
4.5	Goniometric measurement of ROM of joint	3hrs
4.6	Raw material for aids & appliances, leather, fabrics, plaster of paris, wood, plastics	2hrs

**UNIT-5: PREVENTION & ACCESSIBILITY (7 Hours)**

5.1.	General concept, levels, application and effect of prevention	2hrs
5.1	Immunisation schedule	2hrs
5.3.	Environmental modification in family neighbourhood and workplace as preventive method.	3hrs

**PRACTICAL / DEMONSTRATION (108 Hours)**

- Survey of a village - detection of persons with disabilities
  - Demonstration of rehabilitation needs of locomotor disability persons
  - Visit to a immunisation center
  - Writing health talks and making posters on locomotor disability problems
  - Observing A.V. programmes and other mass media health education programme
  - Preparation of charts and posters
- Definition of Rehabilitation, its aim & objectives.
  - Disability process - im----- - functional limitation - disability - rehabilitation.
  - Team approach.
  - Practical demonstration of various surgical and medical conditions.
  - Visit to physiotherapy and observation of its working in terms of man, material and machinery.
  - Observation of various techniques used in using physical agents and exercises therapy.
  - Visit to occupational therapy and observation of working.
  - Observation of various therapeutic activity and functional training methods.

- Visit to prosthetic and orthotic workshop to see its functioning.
- To see various aids & appliances and learn about various materials being used to fabricate supportive and substitutive appliances.
- To learn measuring ROM of various joints
- To learn manual muscle charting
- Normal human locomotion various parameters, demonstration of few cases of gait deviation.

### **REFERENCE BOOKS**

1. Physically Handicapped Children – A Medical Atlas for Teachers by Eugene E Block and Donald, Grune and S.
2. Principles and Practice of Medicine by Davidsen, E.L.B.S. Publication
3. An Introduction to the Study of Diseases by Boyd & Sheldon, Lee & Febiger Philadelphia
4. Manual of Structural Kinesiology by Thomson & E.D., CB Mosby Company, USA
5. Joint Structure and Function – A comprehensive analysis, Cynthia C. Norkin, Pamela K. Levangia, J.P. Brothers New Delhi
6. Applied Kinesiology and Biomechanics by Genson Schultz, Bangerter Mc Gra Hill Company, New York.
7. Short Practice of Surgery by Bailey & Loves, English Language Book Society.
8. Text Book of Surgery by Sobiston WB Saunder Company, London
9. Rose & Carless Manual of Surgery by Wakley, Tindal & Company, London
10. Bio Mechanics of Human Motion by Leveau, WB Saunder Company, London

## MODULE-III

### PAPER – II

#### PHYSICAL AGENTS AND EXERCISE THERAPY (180 hrs)

#### OBJECTIVES

After studying this paper, the students will be able to:

1. learn assessment of locomotor disability.
2. learn and understand basic principles related to use of physical agents and exercise therapy in the management of locomotor disability and disorders & disability.
3. give exercise therapy and use simple procedures in management and rehabilitation of locomotor disorders/ disability.
4. carry out simple electrotherapy and hydrotherapy procedures and assist qualified personnel in carrying out sophisticated procedures.
5. to maintain and take care of rehabilitation equipments and materials.

#### UNIT-1: EXERCISE THERAPY

(24 Hours)

- |      |   |      |
|------|---|------|
| 1.1  | History and introduction of exercise therapy                            | 2hrs |
| 1.2  | Mechanical principles as applied to human body                          | 3hrs |
| 1.3  | Classification and definition of movements active, passive and resisted | 4hrs |
| 1.4  | Progressive resisted exercises  | 2hrs |
| 1.5  | Reeducation and coordination exercise                                   | 2hrs |
| 1.6  | Hydrotherapy  | 3hrs |
| 1.7  | Breathing exercise  | 2hrs |
| 1.8  | Physiological effects of massage and manipulation-techniques.           | 2hrs |
| 1.9  | Equipments required to improve joint mobility and muscle.               | 2hrs |
| 1.10 | Suspension therapy, traction.   | 2hrs |

#### UNIT-2: HEAT AND COLD THERAPY

(8 Hours)

- |     |   |      |
|-----|---|------|
| 2.1 | Physiological effects of heat and cold.   | 3hrs |
| 2.2 | Heat as a physical agent -wax bath, infra-red rays, heating pads.<br>Indications/ contraindication. | 3hrs |
| 2.3 | Cold as a physical agents, techniques. Indication/contraindication.                                 | 2hrs |

#### UNIT - 3: ELECTROTHERAPY

(24 Hours)

- |     |   |      |
|-----|---|------|
| 3.1 | Low frequency currents, Physiological effects on muscle and nerves.                             | 4hrs |
| 3.2 | Faradic and galvanic current, indications/contraindication SD curve.                            | 4hrs |
| 3.3 | TENS, mechanism of pain relief and techniques of application.                                   | 4hrs |
| 3.4 | Shortwave diathermy, principles techniques of application, indications and contraindications.   | 4hrs |
| 3.5 | Ultrasonic therapy - principles, techniques of applications, indications and contraindications. | 4hrs |
| 3.6 | Introduction to advanced electrotherapy treatment modalities.                                   | 4hrs |

#### UNIT - 4: USE OF PHYSICAL AGENTS IN LOCOMOTOR DISORDERS/DISABILITIES

(8 Hours)

- |      |   |      |
|------|---|------|
| 4.1. | Normal and abnormal posture, causes and exercised for restoring normal posture. | 2hrs |
|------|---|------|

4.2.	Pathological gait, gait training.	2hrs
4.3.	Pain management.	2hrs
4.4.	Exercise therapy and physical agents in various medical and surgical conditions.	2hrs

**UNIT - 5: MAINTENANCE & PREPARATION (8 Hours)**

5.1	Description and application of various apparatus used in exercise therapy.	2hrs
5.2	Knowledge of electric connection, their checking and repair.	2hrs
5.3	Materials used for making pads, and electrodes.	2hrs
5.4	Preparation of patient and equipments.	1hr
5.5	Complications and safety measures for the patient during electrotherapy.	

**PRACTICALS (108 Hours)**

**Exercise Therapy**

- Demonstration of active, passive and resisted movements.
- Equipment required to improve joints mobility and muscle power.
- Breathing exercise.
- Normal and abnormal postures.
- Demonstration and. description of equipments like parallel bars, dumbles, springs, walkers, static cycle medicine ball, sand bags, weights and pulley, tilt table etc.
- Walking aids, demonstration and practice of gait training.
- Demonstration & application of special therapies like suspension therapy, hydrotherapy and relaxation, traction.
- Transfer activities.
- Demonstration and practice of massage.
- Demonstration & application of exercise for prevention/treatment of contractive and deformities.
- Demonstration & application of exercises on hemiplegic, CP, Polio, quadriplegia, paraplegia ataxia, myopathy, peripheral nerve injury etc.
- Demonstration of postural drainage
- Demonstration & application of exercise in osteoarthritis, peri-arthritis, rheumatoid, arthritis, alkalosis, spondylitis, CS, LS etc.
- Field visit for practical training to rural rehabilitation set up, burns and plastic department, leprosy centre etc.

**Electrotherapy, Heat and Cold therapy**

- Identification of components of electric equipment.
- Procedures of tidying and cleaning of equipment.
- Safety and precautions measures of burn, shock, giddiness.
- Preparation of patient and equipment for electrotherapy.
- Maintenance of machines, wires, pads and electrodes.
- Observation of working of electrical equipments and assisting in electrodiagnostic and therapeutic procedures.
- Procedure of testing sensation of patient before starting heat therapy.
- Maintenance/Cleanliness and application on patients of hot packs cold packs, contrast bath and wax bath, IRR, US therapy, SWD, TENS, Faradic and galvanic currents.
- Use of basic electrotherapy machine, trouble shooting of basic machines operation

## REFERENCE BOOKS

1. Ada.I. & Canning.C. (Eds.), Key Issues in neurological physiotherapy. Oxford: Heinemann Medical.
2. Black, E.E. & Nogel, D.A. Physically Handicapped Children: An Atlas for teachers. New York; Grune & Stratton.
3. Camphell, S.K., Pediatric Neurological Physical Therapy. New York: Churchill Livingstone.
4. Gardiner, M.D. The Principles of Exercise Therapy, Delhi CBS Publishers & Distributors.
5. Shepard, R.B. Physiotherapy in Paediatrics (2<sup>nd</sup> Edition) London: Wiliam Heinman.
6. Thomson. A., Skinner. A. & Piercy. K Tody's Physiotherapy (Twelfth Edition) Oxford Butterworth – Heinemann Ltd.
7. Stillwel Therapeutic Electricity & Ultraviolet Radiation, William & Willkins Company, Baltimore, London.
8. Joseph Kahn, Principles and Practice of Electro Therapy, Churchill Living Stone, New York.
9. Kendall & Wadsworth, Muscle Testing & Function, William & Willkins Company, Baltimore, London.
10. Bathes & Hanson, Aquatie Exercise Therapy, WB Saunder's Company, Philadelphia.
11. Carolyn Kisner & Lynn Allen Colby. Therapeutic Exercise – Foundation and Techniques. Japee Brothers, New Delhi.
12. David J. Magee. Orthopedie Physical Assessment. W.B. Saunder's Company, Philadelphia
13. Susen B. O'Sullivan & Thomos J. Sehmitz. Physical Rehabilitation – Assessment and Treatment. Jaypee Brothers Medical Publishers (P) Ltd., New Delhi.
14. Angela Forster & Nigel Palastanga – Clayton's Electrotherapy – Theory and Practice. C.B.S. Publishers & Distributors, Delhi.
15. Cynthia Clair Norkin & D. Joyee White. Measurement of Joint Motion – Goniometry.

## MODULE-III

### PAPER- III

#### THERAPEUTIC ACTIVITIES, FUNCTIONAL TRAINING, AIDS & APPLIANCE (180 hrs)

#### OBJECTIVES

After studying this paper the students will be able to following objectives:

1. understand principles of therapeutic activities and give therapeutic activities in various locomotor disorders/disability.
2. understand about functional training, principles, neuro developmental technique, apply this for management of common locomotor disorders/disabilities.
3. learn principles of aids & appliances and their application.

#### UNIT - 2: THERAPEUTIC ACTIVITIES

(24 Hours)

- |     |  |      |
|-----|--|------|
| 1.1 | Knowledge of various equipment used in therapeutic activities.   | 4hrs |
| 1.2 | Positioning patient and activity.  | 4hrs |
| 1.3 | Manual activities and craft, classification, craft and therapeutic activities in psychiatric conditions materials. | 4hrs |
| 1.4 | Application of therapeutic activities in various medical and surgical conditions.                                  | 4hrs |
| 1.5 | Neurodevelopmental techniques and their application in brain damage child and stroke.                              | 6hrs |

#### UNIT-2: UNCTIONAL TRAINING

(16 Hours)

- |     |  |      |
|-----|--|------|
| 2.1 | Activities of daily living - Basic principles and techniques used in transfer activities, ambulation, self care, personal hygiene, home making etc.            | 4hrs |
| 2.2 | Self help devices.   | 2hrs |
| 2.3 | Use of functional "training and therapeutic activities as adaptive devices etc. in leprosy patients. Care of anesthetic part, deformity prevention, splinting. | 2hrs |
| 2.4 | Vocational and prevocational assessment.   | 4hrs |
| 2.5 | Environment and work adaptation.   | 2hrs |
| 2.6 | Role of recreational activities.   | 2hrs |

#### UNIT-3: AIDS & APPLIANCES

(32 Hours)

- |     |  |       |
|-----|--|-------|
| 3.1 | Principles of use of various supportive and substitutive aids and appliances.                      | 8hrs  |
| 3.2 | Measurements, design, fabrication and fitting of supports, braces appliances and remedial devices. | 12hrs |
| 3.3 | Measurements, procedures for designing, fabrications & fitting orthosis prosthesis.                | 12hrs |

## PRACTICALS

(108 Hours)

- Practical use of various equipments and tools used for therapeutic activities and functional training.
- Practical demonstration in working situation of various therapeutic activities in relation to position, posture and various adaptation and practical assistance in these activities.
- Manual activities and craft working skills of wood work, leather work, paper flow, craft, printing, drawing etc.
- Orientation about various self help devices and their use.
- Learning preparing simple self help devices.
- Practical in activities of daily living from following aspects:
  - Self care
    - (1) Feeding
    - (2) Dressing:
      - Personal hygiene
      - Ambulatory activities
      - Home making and child care
      - Miscellaneous activities
- Visit to home or work place of disabled and work out modification.
- Assist in management of different physical disabilities
- Field visit for practical work in general hospitals. leprosy homes, rural rehabilitation center, mental hospital, school for mental retardation, school for special education (Spastic children)
- Practical exposure in burns/plastic surgery, orthopedics, rehabilitation. Pediatrics, medical & surgical wards.
- Therapeutic activities and functional training in various medical and surgical conditions and locomotor disability cases.
- Simple splints making.
- Demonstration of process of fabrication of various supportive and substitutive appliances. Observe the process and record various stages in fabrication of
  - above knee prostheses
  - below knee prostheses
  - above knee caliper
  - below knee caliper
  - foot drop splint
  - cock up splint
  - taylor's brace
  - cervical collar
  - below elbow prosthesis
  - above elbow prosthesis
  - partial foot amputation
  - wheelchair parts; maintenance & trouble shooting
  - repair of prostheses, orthoses-basic like oiling, replacing parts [maintenance]



## REFERENCE BOOKS

1. Cynkin S. & Robinson, A.M. Occupational Therapy & Activities Health: Toward health through activities. Boston : Little Brown and Company.
2. Finnie, N.R. Handling the young cerebral palsied child at home (US Edition). New York
3. Jacobs, K. Occupational Therapy : Word related programmes and assessment. Boston: Little Brown.
4. Moore, P. Dressing atters. A handbook to help people with learning difficulties to dress themselves.
5. Penso, D.E. Occupational Therapy for children with disabilities. London: Croom Helm.
6. Turner, A., Foster, M. & Jonson, S.E. Occupational Therapy and physical dysfunction: Principles, skills and practice (3<sup>rd</sup> edition). Edingburgh: Churchill Livingstone.
7. Reed, K.L. & Sanderson, S.N. Concepts of Occupational Therapy (3<sup>rd</sup> edition) Baltimore: Williams & Wilkins.
8. Sherborne, V. Developmental movement for children Cambridge: Cambridge University Press.
9. Mosey, Psycho Social Component of Occupational Therapy, Raven Press, New York.
10. Lorraine Williams Pedretti, Occupational Therapy for Physical Dysfunction. C.V. Mosby Company, Toranto
11. Macdonald E.M. Occupational Therapy in Rehabilitation, Bailliere & Tindall.
12. Hopkin's & Smith Williard & Spackman's Occupational Therapy. J.B. Lippincott Company, Philadelphia.
13. Catherine A. Trombley – Occupational Therapy for Physical Dysfunction. Williams & Wilkins, Baltimore.

## **DEGREE IN REHABILITATION THERAPY**

**MODULE-IV - SPEECH AND HEARING DISABILITY**

**INSTRUCTION HOURS - 540 HRS**

**THEORY/PRACTICAL RATIO - 40 : 60**

**PAPER-I - AUDIOLOGY & AURAL REHABILITATION**

**PAPER-II - SPEECH & LANGUAGE**

**PAPER III - MANAGEMENT OF SPEECH & LANGUAGE  
DISORDERS**

## MODULE-IV

### PAPER-I

#### AUDIOLOGY & AURAL REHABILITATION (180 Hrs)

##### OBJECTIVES

- To equip the trainee with basic principles of Audiology and its application in therapy.
- To familiarise the trainee with the different rehabilitation aids and appliances used in audiology.
- To acquaint the trainee with the recent developments in the field of audiology and their application.

##### COURSE CONTENT - Theory 72 Hrs

##### UNIT – 1: Hearing Mechanism 10 Hrs

1.1	Historical aspects of audiology	1hr
1.2	Anatomy of the Ear	2hr
1.3	How we hear	2hr
1.4	Concept of decibel	1hr
1.5	Hearing loss, nature causes and classification	2hr
1.6	Aural hygiene and steps to prevent impairment	2hr

##### UNIT - 2 Identification and Assessment of Hearing 20 Hrs

2.1	Behavioral responses to sound at various age range.	1hr
2.2	Informal Hearing tests (screening).	1hr
2.3	Early identification of hearing impairment.	4hrs
2.4	Importance of early identification in rehabilitation process.	4hrs
2.5	Different types of instruments used for testing hearing sensitivity.	2hrs
2.6	What is an audiogram, how to obtain and interpret audiogram.	4hrs
2.7	Classification of hearing impairment according to degree of hearing loss.	4hrs

##### UNIT -3 Hearing aids, Assistive devices and Ear moulds 15 Hrs

3.1	Hearing aid its parts and different types of hearing aids.	4hrs
3.2	Different types of assistive and amplification devices.	4hrs
3.3	Selection of a suitable hearing aid, its maintenance and care.	3hrs
3.4	Ear moulds - its importance and care.	2hrs
3.5	Custom making of ear moulds.	2hrs

##### UNIT - 4 Management of the Aurally Handicapped 27 Hrs

4.1	Education of the aurally handicapped.	9hrs
(a)	Definition and goals in rural rehabilitation.	
(b)	Early identification and its importance in aural rehabilitation.	
(c)	Speech disorders in the hard of hearing children: Articulation; Voice, intonation; and rhythm.	
(d)	Therapy for speech disorders.	

(e) Method of teaching language to the hearing impaired.

4.2 Speech Reading 9hrs

- (a) Definitions
- (b) Factors influencing speech reading
- (c) Methods of training
- (d) Individual and Group training

4.3 Auditory Training 9hrs

- (a) Definition, need and importance of auditory training.
- (b) Steps in auditory training.
- (c) Factors like age of the child, type of hearing loss, intensity of stimuli.
- (d) Recording responses and progress.
- (e) Game and activities for auditory training (individual and group training).

## MODULE-IV

### PAPER – II SPEECH & LANGUAGE (180 Hrs)

#### OBJECTIVES

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- To equip the trainee with information on normal speech & language development.
- To equip the trainee with information on various speech & language disorders.

**COURSE CONTENT - Theory 72 Hrs**

**UNIT - 1 Introduction to Language 20 Hrs**

1.1	Definition, nature and functions of language.	2hrs
1.2	Definition, nature and scope of communication.	2hrs
1.3	Modes of communication.	2hrs
1.4	Biological & Psychological foundation of language.	4hrs
1.5	Stages of normal speech & language development.	4hrs
1.6	Effects of hearing impairment on language development.	3hrs
1.7	Critical period and its importance in the language and speech development.	3hrs

**UNIT - 2 Introduction of Speech 20 Hrs**

2.1	Definition, different parameters, concept and characteristics of normal-speech.	3hrs
2.2	Structure of speech organs, respiratory, articulatory and phonatory system.	4hrs
2.3	Stages of vocabulary, syntax semantics, and phonological development.	4hrs
2.4	Classification of sounds (Vowels, consonants)	3hrs
2.5	Place and manner of articulation.	3hrs
2.6	Speech sound system of (Hindi) regional language.	3hrs

**UNIT - 3 Speech and language disorders 32 Hrs**

3.1	Definition and concept of abnormal speech.	4hrs
3.2	Classification of speech & language disorders.	
(a)	Delayed speech & language	4hrs
(b)	Disorders of articulation – types & causes	4hrs
(c)	Disorders of fluency -Stuttering, Cluttering, normal non-fluency	4hrs
(d)	Disorders of voice	4hrs
(e)	Neuro genic speech disorders	6hrs
(f)	Speech problems in M.R., C.P., Cleft Palate etc.	6hrs

## MODULE-IV

### PAPER-III

#### MANAGEMENT OF SPEECH & LANGUAGE DISORDERS(180 Hrs)

#### OBJECTIVES

- To equip the trainee in assessment and evaluation of speech & language.

- To familiarize the trainee with different techniques of speech therapy.
- To familiarize the trainee to handle various instruments & equipments used in speech therapy.
- To acquaint the trainee with the recent development I the field of speech pathology & their applications.

**COURSE CONTENT - Theory 72 Hrs**

**UNIT-1 Diagnostics 26 Hrs**

- 1.1 Introduction to Diagnostics setup and tools.
- 1.2 Case history, interviews.
- 1.3 Differentials Diagnosis, Clinical diagnosis, tentative diagnosis
- 1.4 Evaluation of speech in terms of voice, articulations, fluency supra segmental features.
- 1.5 Evaluation of language.

**UNIT-1 Speech Therapeutics 36 Hrs**

- 2.1 General principles of speech therapy.
- 2.2 Long term and short term goals in speech therapy.
- 2.3 Introduction to
  - (a) Formal & informal approaches and techniques in therapy.
  - (b) Record keeping (clinical diaries, lesson plans etc.)
  - (c) Speech therapy- Therapy for delayed speech & language , misarticulation, stuttering voice problems, aphasia etc.
  - (d) Parent centered activities in developing and maintaining speech.

**UNIT-3 Different types of speech training aids 06 Hrs**

**UNIT-4 Prevention of speech & language disorders 04 Hrs**

**PRACTICAL-I 108 Hrs**

**UNIT-I Hearing Mechanism 18 Hrs**

- 1.1 Observation of case history and recording
- 1.2 Demonstration by charts, models, computer, etc.
- 1.3 Preparation of charts.

**UNIT-2 Identification and Assessment of Hearing 30 Hrs**

- 2.1 Pure Tone Audiometry, plotting of audiogram, writing impressions
- 2.2 Screening of school children
- 2.3 Testing of hearing in hospitals
- 2.4 Collecting information on technical specification of audiometers.

**UNIT- 3 Hearing aids, Assistive devices and Ear moulds 20 Hrs**

- 3.1 Hearing aid trial
- 3.2 Making diagrams of different types of hearing aids and assistive devices.
- 3.3 Collecting information on technical specification of different hearing aids and assistive devices.

<b>UNIT-4</b>	<b>Management of the Aurally Handicapped</b>	<b>40 Hrs</b>
4.1	Speech reading	
4.2	Auditory training- steps in auditory training	
4.3	Recording of responses and progress	
4.4	Development of listening skills	
4.5	Development of games and activities for auditory training.	
4.6	Visits to special schools for the Hearing handicapped.	
<b>PRACTICAL-II</b>		<b>108 Hrs</b>
<b>UNIT-I</b>	<b>Introduction of Language</b>	<b>10 Hrs</b>
1.1	Demonstration by charts, models and computer etc.	
<b>UNIT-2</b>	<b>Introduction of Speech</b>	<b>30 Hrs</b>
2.1	Charts on classification on speech sounds in Hindi and Regional languages.	
2.2	Charts on classification on speech sounds according to place and manner of articulation.	
<b>UNIT-3</b>	<b>Speech and language disorders</b>	<b>68 Hrs</b>
3.1	Visit to Hospital/Clinics for observations of children/adults with various speech and language disorders.	
<b>PRACTICAL-III</b>		<b>108 Hrs</b>
<b>UNIT-I</b>	<b>Diagnostics</b>	<b>36 Hrs</b>
1.1	Case history & interviewing.	
1.2	Examinations of speech organs	
1.3	Speech assessment- articulation testing, preparation of articulation tests	
1.4	Assessment of voice- perpetual & instrumental	
1.5	Assessment of stuttering	
1.6	Assessment & Evaluation of language	
<b>UNIT-2</b>	<b>Speech Therapeutics</b>	<b>54 Hrs</b>
2.1	Preparation of therapy kit & teaching aids	
2.2	Preparation of listen plan	
2.3	Techniques of correcting different speech disorders	
2.4	Writing of reports	
2.5	Knowledge of referrals local & outside	
<b>UNIT-3</b>	<b>Different types of speech training aids</b>	<b>14 Hrs</b>
-	Handling of various instruments & equipment's used in speech therapy.	
<b>UNIT-4</b>	<b>Prevention of speech &amp; language disorders</b>	<b>04 Hrs.</b>

- Preparation of health talks on prevention on speech & language disorders.

### **REFERENCE BOOKS FOR Paper-I, II & III**

- 1 Carrow-Wool Folk. E. & Lynch J.I., (1982) An integrative approach to language disorders in children, New York: Grune & Stratton Inc.
2. Coupe, J & Goldbart, J (Eds) (1988) Communication before speech: Normal development and impaired communication, London: Croom Helm Publication
3. Goetz, L., Guess, D., and Campbell .KS, (1987) innovative program design for individuals with dual sensory impairments, London: Paul H. Brookes.
4. Kiernan, C., Reid, B. & Gold Bart, J., (1987) Foundation of communication and Language: Course manual, Manchester, U.K. Manchester University Press.
5. Reich, P.A. (1986) Language Development New Jersey: Prentice Hall.
6. Van Riper, C. & Emerick 'L'. (1994) Speech Correction. An Introduction to Speech Pathology and Audiology, New Jersey: Prentice Hall, 8<sup>th</sup> Edn.
7. Emerick, L.L. and Haynes, W.C. (1986) Diagnosis and Evaluation in Speech Pathology (3<sup>rd</sup> Ed.), New Jersey: Prentice Hall Inc. (Chapter 6).
8. Subha Rao T.A. (1992) a Manual on Developing Communication Skills in Mentally Handicapped persons, NIMH Secunderabad.
9. Kohli, T. (1987) Portage basic training course for early stimulation of pre-school children in India. Delhi UNICEF.
10. Manolson, A. (1992). It takes two to talk – A parent's guide to helping children communicate. 3<sup>rd</sup> Revision, Ontario: Hanen.
11. Signes from Makaton Vocabulary (1994). Mumbai: Makaton India (S.P.J. Sadhana School).



**BACHELOR IN REHABILITATION THERAPY**

**MODULE-V : VISUAL IMPAIRMENT**

**INSTRUCTION HOURS : 540 HOURS**

**THEORY/PRACTICAL RATIO : 216:324**

## MODULE-V

### PAPER-I EYE & EYE CARE

#### OBJECTIVES

1. To enable the student of B.Sc. Rehabilitation Therapy to describe and low anatomy and physiology of eye and various eye disorders and their causes.
2. To acquaint the students of their course with preventive measures.
3. To enable them to prepare guidelines for identification of visually impaired vision children.
4. To acquaint them with intervention strategies.

#### COURSE CONTENT

S.NO.	TOPIC	HOURS
<b>UNIT-1</b>	<b>ANATOMY AND PHYSIOLOG OF THE EYE</b>	<b>40 Hrs</b>
1.	Structure of eye	10hrs
2.	Major causes of blindness in India	12hrs
3.	Common eye disease	08hrs
4.	Basic Management of Common Eye ailments	10hrs
<b>UNIT-2</b>	<b>PREVENTIO OF BLINDNESS</b>	<b>16 Hrs</b>
1.	Need for giving vitamin A to children	04hrs
2.	Simple hygiene	04hrs
3.	Simple ways of preventing visual impairment	08hrs
S.NO.	TOPIC	HOURS
<b>UNIT-3</b>	<b>IDENTIFICATION 7&amp; EARLY INTERVENTION STRATEGIES</b>	<b>16 HOURS</b>
1.	Need for early identification	02hrs
2.	Methods of identification	04hrs
3.	Importance of Early identification	04hrs
4.	Intervention Strategies	04hrs
5.	Referral to appropriate institutions.	02hrs

## MODULE-V

### PAPER-II PSYCO-SOCIAL IMPLICATIONS OF BLINDNESS AND VISUAL IMPAIRMENT(180 Hrs)

#### OBJECTIVES

1. To enable them to describe psyco-social implications of blindness.

2. To acquaint them with the effects of visual impairment and low vision on various aspects of child development.
3. To acquaint the students of this course with techniques of guidance and counselling to the parents/Guardians of visually impaired and low vision children and adults.
4. To acquaint them with rehabilitation strategies for the rehabilitation of elderly blind and the visually impaired people.

### **COURSE CONTENT**

<b>S.NO.</b>	<b>TOPIC</b>	<b>HOURS</b>
<b>UNIT-1</b>	<b>PSYCOLOGICAL IMPLICATIONS</b>	<b>15 HOURS</b>
1.	Concept of blindness, visual impairment, visual disability and visually handicapped.	04hrs
2.	Strengths and limitations of sight, hearing, touch kinesthesia smell and touch.	05hrs
3.	Manneristic behaviour	02hrs
4.	Verbalism	02hrs
5.	Remedial measures.	02hrs
<b>UNIT-2</b>	<b>ATTITUDES 7 ADJUSTMENT TO VISUAL IMPAIRMENT ON:</b>	<b>20 HRS</b>
	(a) Physical	05hrs
	(b) Cognitive	05hrs
	(c) Social	05hrs
	(d) Emotional and Personality development	05hrs
<b>UNIT-3</b>	<b>ATTITUDES &amp; ADJUSTMENT TO VISUAL IMPAIRMENT AND LOW VISION-</b>	<b>11 HOURS</b>
1.	Attitudes towards blindness and low vision-Parental Sibling, peer, personal and social	05hrs
2.	Factors effecting adjustment-blindness/ visual impairment and low vision-	06hrs
	(a) Age at on set of blindness	
	(b) Cause of blindness	
	(c) Degree of residual vision	
	(d) Family environment Social perceptions	
<b>UNIT-4</b>	<b>EDUCATION AND VOCATIONAL GUIDANCE</b>	<b>10 HRS</b>
1.	Concept of guidance and Counselling	02hrs
2.	Importance of guidance and counseling	02hrs
3.	Techniques of counseling	02hrs
4.	Concept of vocational education	01hrs
5.	Opportunities and areas of vocational training	01hrs
6.	Role of special employment exchanges, VRCs and NGOs in the vocational training and rehabilitation of visually impaired and low vision students.	02hrs

<b>UNIT-5</b>	<b>REHABILITATION OF THE ELDERLY BLIND</b>	<b>16 HRS</b>
1.	Independence at home	06hrs
2.	Recreation	04hrs
3.	Social interaction and community participation.	06hrs

## MODULE-V

### PAPER-III EDUCATION OF VISUALLY IMPAIRED AND LOW VISION CHILDREN(180 Hrs)

#### OBJECTIVES

1. To orient the students of B.Sc. Rehabilitation Therapy course with various educational approaches to the education of the visually impaired and low vision children.
2. To acquaint them with curricular adaptations needed in the education of visually impaired and low vision children.

#### COURSE CONTENT

S.NO.	TOPIC	HOURS
<b>UNIT-1</b>	<b>HISTORICAL PERSPECTIVES</b>	<b>05 HRS</b>
1.	Chorological development of educational services for blind and visually impaired children- (a) Pre independence (b) post independence period (c) Development of Brahitya Braille	
<b>UNIT-2</b>	<b>APPROACHES TO THE EDUCATION OF VISUAL IMPAIRMENT AND LOW VISION CHILDREN</b>	<b>10 HOURS</b>
1.	Laminations of blindness and visually impaired	
2.	Implications of low vision in educational planning	
3.	Special School Approach	
4.	Integrated Education Approach	
5.	Inclusion	
6.	Models of Integrated education- resource plan, itinerant plan combined model.	
7.	Structure & function of Resource room.	
8.	Role & Responsibilities of Resource Teachers.	
<b>UNIT-3</b>	<b>IMPLICATIONS OF VISUALLY IMPARED AND LOW VISION IN CURRICULUM DEVELOPMENT-</b>	<b>30 HOURS</b>
1.	Curricular adaptation- (a) Curricular adaptations- director and indirect services. (b) Principles of instructional methods-duplication, modification, substitution and omission. (c) Creative arts and adapted physical education and you strategies for coping with stress.	06
2.	Plus curriculum concept, component need and importance	04
3.	Teaching plus curricular skills- (a) Braille. (b) Orientation and mobility-concept techniques (c) Activities of daily living (ADL)-Need, importance and techniques. (d) Sensory training	03 03 06 02

**UNIT-4 EDUCATION OF LOW VISION CHILDREN 20 HRS.**

- |    |  |       |
|----|--|-------|
| 1. | Concept of low vision  | 02hrs |
| 2. | Differences between legal blindness, low vision and partial sight.       | 02hrs |
| 3. | Magnification- Concept, Types, Limitations                               | 02hrs |
| 4. | Devices-   | 03hrs |
|    | (a) hand and Stand Magnifiers  |       |
|    | (b) /spectacle magnifiers  |       |
|    | (c) Lighted and Unlighted Magnifiers                                     |       |
|    | (d) Projective devices-CCTV, OH Projections                              |       |
|    | (e) Conditions in which various devices can be used                      |       |
|    | (f) Non-Optical aid  |       |
| 5. | Print Reading –  | 03hrs |
|    | (a) Enhanced print   |       |
|    | (b) Variable Print   |       |
|    | (c) Colour Contrast  |       |
| 6. | Writing Devices-   | 03hrs |
|    | (a) Felt & Reed Pens   |       |
|    | (b) Bulletin Typewriters   |       |
|    | (c) Enhancing letters in Computer  |       |
| 7. | Class Room Management  | 05hrs |
|    | (a) Uniform Lighting   |       |
|    | (b) Natural Lighting   |       |
|    | (c) Adjustable desks   |       |
|    | (d) Selective Seating  |       |
|    | (e) Interactive Communication devices                                    |       |
|    | (f) Non-reflecting flooring, roofing, walls and curtains                 |       |
|    | (g) Need for a special Bond  |       |
|    | (h) Coping with the needs if Albinos and other light sensitive children. |       |

Class Room Adjustment in rural areas.

**UNIT-5: CONTRIBUTION OF TECHNOLOGY IN THE EDUCATION OF VISUAL IMPAIRED AND LOW VISION. 07 Hours**

- |    |   |       |
|----|---|-------|
| 1. | Traditional technology like Braille slate, Traylor frame, abacus, geometry devices, long and folding canes, stereo typing machines. | 02hrs |
| 2. | Modern equipment- reading machines, computer based writing devices, computerised Braille production system.                         | 03hrs |
| 3. | Traditional and electronic mobility devices.  | 02hrs |

**PRACTICALS for Paper-I, II & III 324hrs**

**S.No. TOPIC**

- |    |   |       |
|----|---|-------|
| 1. | Learning of Bhartiya and standard English Braille                 | 75hrs |
| 2. | Orientation & Mobility-   | 60hrs |
|    | (a) Pre cane skills   |       |
|    | (b) Use of long cane under blind fold condition                   |       |
|    | (c) Teaching of O & M to blind and low vision children and adults |       |

3.	Teaching of activities of daily living to blind and low vision children.	20hrs
	(a) Personal grooming	
	(b) Eating & table manners	
	(c) Polishing shoes	
	(d) Washing Clothes	
4.	Learning of use of special equipment-Braille. Braille writing slate, taylor frame, abacus, geometry devices	50hrs
5.	Visit of special schools and vocational training centres	35hrs
6.	Visit to Eye Hospital & Eye Departments of Medical College.	30hrs
8.	Preparation of Teaching Learning Material	54hrs

### **Reference Books for Paper-I, II & III**

1. Windoor & Hurtt, Eye Muscle Problems in Childhood, Henry Kimpton; London
2. Bourgeault S.E. Methods of Teaching and Blind – The Language Art, Kaula Lampur, Lalaysia, AFOB/FERO.
3. Bourgeault S.E., Integrated Education for Blind Children, New York; AFB
4. Dorward B, & Barrage N., Teaching aids for Blind and Handicapped Children, AFB, New York.
5. Jangira N.K. Special Education Scenario in Britain and India. The Academics Press, Haryana, India
6. Josephin Stration, The Blind Child in the Regular Kindergarten, Charles C. Thomas, Publisher, Springfield, Illinios, USA.
7. Mukhopadhyay S. Mani M.N.G., Jangira N K (1985), Adjustment Instructional Material and Methods for Visually Impaired in Normal Schools, NCERT, New Delhi.
8. Mani M.N.G., Source Book for Teachers of Visually Disabled Children. Sri Ramakrishna Mission Vidyalaya College of Education, Coimbatore-641 020.
9. Randol T. Jose, Understanding Low Vision, AFB Inc., New York
10. Warron D.H., Blindness and Early Childhood Development, AFB, New York
11. Yeadon A & Grayson D, Living with impaired vision, an introduction, AFB New York
12. Rev. Thomas J. Carroll, Blindness, Boston, Little Brown & Company, Toronto
13. Berthold Lowenfeld (1975), The Changing status of Blind from Separation to Integration, Springfield, Charles C. Thomos Publishers, Illinios, USA
14. Nolon and Norris, Improvement of Tectual Symbols for Blind Children
15. Vaughan & Others, General Ophthalmotogy, Large Medical Publication, California
16. William T. Lydon Concept Development for Visually Handicapped Children, AFB New York.
17. Evart Hill & Purvis Ponder Orientation and Mobility Techniques, AFB, New York
18. Barrage Natalio Visual Handicaps and Learning, Exception Resources, Astin, Texas.

## **BACHELOR IN REHABILITATION THERAPY**

<b>MODULE-VI</b>	-	<b>MENTAL RETARDATION AND LEARNING DISABILITY</b>
<b>INSTRUCTION HOURS</b>	-	<b>540 Hrs.</b>
<b>THEORY/PRACTICAL RATIO</b>	-	<b>40:60</b>
<b>PAPER-I</b>	-	<b>MENTAL RETARDATION &amp; LEARNING DISABILITY- NATURE &amp; NEEDS.</b>
<b>PAPER-II</b>	-	<b>ASSESSMENT AND CURRICULUM DEVELOPMENT.</b>
<b>PAPER-III</b>	-	<b>MANAGEMENT OF CHILDREN WITH MENTAL RETARDATION AND CHILDREN WITH LEARNING DISABILITY.</b>



## MODULE-VI

### PAPER-1 MENTAL RETARDATION & LEARNING DISABILITY- NATURE & NEEDS (180 Hrs)

#### OBJECTIVES:

To impart information on:

- Nature, causes prevention of mental retardation.
- Nature, causes & prevention of learning difficulty
- Associated conditions of mental retardation.

<b>UNIT-1</b>	<b>Mental Retardation</b>	<b>42 Hrs</b>
-	1.1 Concept of Mental Retardation	02hrs
-	1.2 historical perspective	02hrs
-	1.3 Definition-A.A.M.R., W.H.O., I.C.D.	02hrs
-	1.4 Incidence and prevalence	02hrs
-	1.5 Classification of mental retardation- medical psychological and education.	04hrs
-	1.6 Causes and prevention-Prenatal, natal and post natal.	06hrs
-	1.7 Screening and Early Identification of Mental Retardation.	08hrs
-	1.8 Associated conditions, Psycho- social problems of persons with mental retardation.	08hrs
-	1.9 Attitudes towards mental retardation.	04hrs
-	1.10 Misconceptions and social practices.	04hrs
<b>UNIT-II</b>	<b>Learning Difficulty</b>	<b>30 Hrs.</b>
-	2.1 Characteristics of children with learning difficulty	06hrs
-	2.2 Attention deficit, hyperactive disorder	06hrs
-	2.3 Perceptual difficulties.	06hrs
-	2.4 Difficulties in language, reading, writing and number	06hrs
-	2.5 Problem of memory, metacognitive deficits.	06hrs

#### REFERENCE BOOKS

1. Baroff, G.S. Mental Retardation – Nature Causes and Management (2<sup>nd</sup> Edition) Washington: Hemisphere Publishing Corporation.
2. Batshaw, M.L. and Parret, Y.M., Children with handicaps. A medical primer, London: Paul Brookes.
3. Clarke, A.N. Clarke, A.D.B. & Berg, J.M. Mental Deficiency. The Changing Outlook (4<sup>th</sup> edition), London Methuen Co.
4. Fraser, W.I. MacGillivray, R.C. & Green A.M. Hallas' Caring for people with mental handicaps, Oxford: Butterworth Heinmann.
5. Hosking; G. & Murphy, G. (Eds). Prevention of mental handicap. A world View London: Royal Society of Medicine Services.

6. Puri, M. & Sen A.K. Mentally Retarded Children in India, New Delhi: Mitttle Publications.
7. Sen, A (1992) Mental Handicap among rural Indian Children, New Delhi: Sage Publications India Pvt. Ltd.
8. Shankley, E. Mental Handicap – A handbook of Care, Edinburgh: Churchill Livingstone.
9. Bullock, L.M. Exceptionalities in Children and youth, Boston: Allyn and Bacon.
10. Coupe, J and Poster, J. The education of children with severe learning difficulties, London : Croom Helm.
11. Hallahan, D.P. and Kauffman, J M, Exceptional Learners, Boston: Allyn and Bacon.
12. Heward W.L. & Orlansky, M.D. Exceptional Children, New York : Maxwell Macmillan International
13. Narayan, J. Grade Level assessment device for children with learning pronlems in schools, Secunderabad: NIMH
14. Wallace, G., Larsen, S.C. and Elkinson (1992) Educational Assessment of learning problems, Testing for teaching : Boston: Allyn and Bacon

## MODULE-VI

### PAPER-II

#### ASSESSMENT AND CURRICULUM DEVELOPMENT (180 Hrs)

##### OBJECTIVES:

To impart information and first hand experience on:

- Psycho-educational assessment.
- Principles of curriculum development
- Choosing and using appropriate material to train the mentally retarded children.

<b>UNIT-I</b>	<b>Assessment &amp; Evaluation</b>	<b>32 Hrs.</b>
-	1.1 Concept, definition	02hrs
-	1.2 Scope & purpose of assessment	02hrs
-	1.3 Types of assessment	02hrs
-	1.4 Continuous and periodic assessment	02hrs
-	1.5 Formative and summative assessment	02 hrs
-	1.6 Psychological, educational assessment	04hrs
-	1.7 Functional, behavioural clinical assessment	04hrs
-	1.8 Problems & implications of assessment and evaluation with reference to teaching and training.	04hrs
-	1.9 Assessment Tools with special reference to the Indian Context.	02hrs
-	1.10 Assessment of Learning difficulties in the classroom and distinction between mental retardation and learning difficulty.	08hrs
<b>UNIT-II</b>	<b>Curriculum Development</b>	<b>40 Hrs</b>
-	2.1 Programme Planning-Individualised Educational Programme (I.E.P) remedial teaching for children with learning difficulties.	10hrs
-	2.2 Principles and purpose of curriculum development.	08hrs
-	2.3 Types and approaches of curriculum developments	08hrs
-	2.4 Procedure for developing curriculum	08hrs
-	2.5 Development of Instructional Material.	06hrs

## REFERENCE BOOKS

1. Bailey, D.B. & Wolery, M. Teaching infants and preschoolers with disabilities (2<sup>nd</sup> Edition), Toronto: Maxwell Macmillan Canada
2. Kind – Sears, M.E. Curriculum Based assessment in special education. San Diego. Singular Publishing group, Inc.
3. Langone; J. Teaching educable mentally retarded children, Boston: Allyn and Bacon
4. Mann, P.H. Sulter, P.A. & McClung, R.M. A guide for educating mainstreamed students. Boston: Allyn and Bascon.
5. Overton, T., Assessment in Special Education: An applied approach New York: Macmillan Publishing Company.
6. Polloway, E.A. & Patton, J.R. Strategies for teaching learners with special needs. New York: Macmillan Publishing Company
7. Scahfer, D.A. & Moorach, M.S. (Eds), Developmental Programming for infants and young children (Vol-I-III) Arbor: University of Michigan Press.
8. Shell M.E. Instruction of students with severe disabilities (4<sup>th</sup> edition) Toronto Maxwell Macmillan Canada.
9. Smith D.D. & Luckasson, R. Introduction to special education: Teaching in an age of challenge (2<sup>nd</sup> edition) Bonston: Allyn and Bacon.
10. Taylor, R.L Assessment of exceptional students: Educational and psychological procedures, Boston: Allyn and Bacon

## MODULE-VI

### PAPER-III

#### MANAGEMENT OF CHILDREN WITH MENTAL RETARDATION AND CHILDREN WITH LEARNING DISABILITY (180 Hrs)

##### OBJECTIVES

- To gain competence in teaching children with mental retardation in various settings- pre school, primary, secondary and pre-vocational.
- To apply behaviour modifications techniques for persons with metal retardation.
- To become aware of various models of vocational training and employment.
- To be aware of alternate models of services for persons with mental retardation.

<b>UNIT-I</b>	<b>Skill Training –strategies</b>	<b>25 Hrs</b>
-	1.1 Teaching/learning principles, techniques and strategies for infants, pre-primary, primary, secondary and pre-vocational levels of children with mental Retardation and Learning Difficulty.	12hrs
-	1.2 Task analysis, chaining, shaping, discrimination learning and fading.	05hrs
-	1.3 Strategies to train in motor, self help, language, academic skills to children with mental retardation.	08hrs
<b>UNIT-II</b>	<b>Behavioural Problems and Their Management</b>	<b>20 Hrs</b>
-	2.1 Behaviour problems- Nature Types	02hrs
-	2.2 Problem behaviour assessment- Identification collecting baseline data, functional analysis package programme evaluation of change	06hrs.
-	2.3 Approaches to behaviour modification- medical, social, psychoanalytic and behavioural.	04hrs
-	2.4 Behavioural modification technique for management.	08hrs
<b>UNIT-III</b>	<b>Vocational Management</b>	<b>15 Hrs</b>
-	3.1 Vocational potential of adults with Mental Retardation	05hrs
-	3.2 Types of vocational employment- competitive, sheltered, supportive and self.	08hrs
-	3.3 Referral services- Institutions existing in India.	02hrs
<b>UNIT-IV</b>	<b>Service Programmes</b>	<b>12 Hrs</b>
-	4.1 Group education programme	03hrs
-	4.2 Home bound programme	03hrs
-	4.3 Management of persons with severe profound and multiple handicap.	03hrs
-	4.4 Organisation and administration of special integrated schools.	03hrs

## **PRACTICAL**

**Total 324 Hrs.**

### **UNIT 1: SPECIAL EDUCATION**

- Observe, discuss and learn methods, tools and techniques for special education assessment and plan I.E.P. with minimum three objectives in three children with mental retardation and one with learning difficulty.
- Select or make teaching aids appropriate to the objectives.
- Implement the programme for two months (one hour daily) under supervision.

90 Hrs.

- Measure the progress and identify shortcomings.
- Plan and implement group lessons (minimum 20 lessons with different group levels).
- Write report and submit for evaluation.

100 Hrs.

### **UNIT II: BEHAVIOUR MODIFICATION**

- Observe, discuss and learn techniques of problem behaviour assessment.
- Identify three children/persons with M.R.
- Having behavioural problem.
- Workout behaviour management programme and implement
- Submit the writ up for evaluation.

90 Hrs.

### **UNIT III: VISITS TO INSTITUTION FOR M.R.**

- Visit 10 institutions and submit the visit report
- Collect addresses of Centres working for persons with M.R. and L.D. in the region.

44 Hrs.

### **REFERENCE BOOKS**

1. Cooper, J.D., Heron, T.E. & Heward., W.J. Applied Behaviour Analysis. Merrill Publishers.
2. Gardner, W.I. Behaviour modification in mental retardation. Education & Rehabilitation of the mentally retarded adolescent and adult. Chicago, Aldine Publishing Co.
3. Matson, J.I. Hand Book of Behaviour modification with mentally retarded. (2<sup>nd</sup> edition). New York, Plenum Press.
4. Pressland J.I., Overcoming Difficult Behaviour: A guide and source book for helping people with severe mental handicap. Wores, BIMH.
5. Peshawaria, R. and Venkatesan, S. Behavioural approach in teaching children with mental retardation. A manual for teachers, National Institute for the Mentally Handicapped, Secunderabad-500 0-09. India
6. Sigman; M. Children with emotional disorders and developmental disabilities. Assessment and treatment. London Grune & Stratton.

7. Walker, J.E. and Sbear, T.M. Behaviour Management: A practical approach for educators Prentice Hall, Inc.
8. Yule, W., and Carr. J. Behaviour modification for people with mental handicaps, London, Chapman & Halt.
9. Zvipoli, T.J. and Melloy, K.J. Behaviour Management: Applications for teachers and parents, Prentice Hall, Inc.
10. International Labour Organization, Vocational Rehabilitation of the mentally restores (2<sup>nd</sup> edition) Geneva, ILO Publication.
11. Keerman, W.E. & Stark, J.A. (Edrs) Pathway to employment, for adults with developmental disabilities, Baltimore, Brooke Publishing Co.
12. Mologhin, C.S. et.al. getting employment, staying employed, Brookes Publishing Co.
13. Moon, M.S. et.al. Helping persons with severe mental retardation get and keep employment, Baltimore, Brookes Publishing Co.
14. Stardfort, E. et.al. Foundation of the vocational rehabilitation process. Third edition, Autin – Oakes Bonlevard Publishing Co.
15. Wehman, P. & Barcus J.M. from school to work – A vocational transition model for the handicapped, Baltimore, Brookes Publishing Co.
16. Wehman, P & Moon M.S. (Edrs). Vocational rehabilitation and supported employment, Baltimore, Brookes Publishing Co.
17. Pollowaya, E.A. & Patton, J.R. Strategies for teaching learners with special needs. New York: Macmillan Publishing Company.
18. Vos, C.S. & Vaughn, S. Strategies for teaching students with learning and behaviour problems, Boston: Allyn and Bacon.

## **BACHELOR IN REHABILITATION THERAPY**

**MODULE – VII - MULTIPLE DISABILITY**

**INSTRUCTION HOURS - 540 Hrs.**

**THEORY/PRACTICAL RATIO - 40 : 60**

**PAPER –I - CEREBRAL PALSY AND OTHER  
NEUROLOGICAL CONDITIONS**

**PAPER – II - NEEDS ASSESSMENT – PERSONS WITH  
DISABILITY, FAMILY & COMMUNITY**

**PAPER – III - HOLISTIC APPROACHES TO  
WORKING WITH PERSONS WITH  
MULTI-DISABILITY.**



## **MODULE-VII**

### **PAPER – I**

#### **CEREBRAL PALSY AND OTHER NEUROLOGICAL CONDITIONS (180 Hrs)**

#### **OBJECTIVES**

1. To understand the magnitude and the problems of persons with multi-disability in India.
2. To be able to recognize various categories of multi-disability/ neurological conditions.
3. To be able to identify the need to refer for further diagnosis and prognosis.

#### **Course Content**

- |     |  |       |
|-----|--|-------|
| 1.1 | Issues related to the prevalence of multi-disability in urban and rural India – magnitude and attitudes. | 04hrs |
| 1.2 | Issues related to access to information services and technology.   | 04hrs |
| 1.3 | Specific needs of persons with multi-disability in relation to self, family community.                   | 04hrs |
| 2.1 | Types, causes, signs and symptoms of cerebral palsy and other neurological conditions.                   | 20hrs |
| 2.2 | Life history of cerebral palsy and other neurological conditions.  | 20hrs |
| 2.3 | Specific developmental problems in cerebral palsy and other neurological conditions.                     | 12hrs |
| 2.4 | History taking   | 06hrs |
| 2.5 | Guidelines for referral.   | 02hrs |

## **MODULE-VII**

### **PAPER – II**

#### **NEEDS ASSESSMENT: PERSONS WITH DISABILITY, FAMILY AND COMMUNITY (180 Hrs)**

##### **Objectives**

1. To be able to assess the physical and functional ability level and associated problems of persons with disability.
2. To be able to interpret physical and functional problems affecting daily life of persons with disability and their families.
3. To be able to assess family and community barriers and resources affecting the development of persons with disability.
4. To be able to identify the need to refer for specialized assessment.

##### **Course Content**

1.1	Assessment of gross motor and fine motor level.	08hrs
1.2	Identification of functional and practical problems related to independent function in ADLs.	08hrs
1.3	Identification of associated behaviour, sensory and health problems of multi-disabled.	08hrs
1.4	Screening and assessment checklists.	08hrs
2.1	Identification of contractures and deformities.	04hrs
2.2	Identification of abnormal postures and movement patterns.	04hrs
2.3	Assessment of mobility potential and mobility needs of persons with Disability.	08hrs
3.1	Methods to assess family problems and resources.	06hrs
3.2	Methods to identify environmental and social barriers.	06hrs
4.1	Comprehensive interpretative summary of needs assessments.	08hrs
4.2	Guidelines for referrals.	04hrs

## **MODULE-VII**

### **PAPER – III**

#### **HOLISTIC APPROACHES TO WORKING WITH PERSONS WITH MULTI-DISABILITY (180 Hrs)**

##### **Objectives**

1. To develop problem solving approaches to working with persons with multi-disability.
2. To be able to devise and implement individual programme plans and evaluate progress.
3. To be able to implement specialized level programmes.
4. To be able to identify need to refer for specialized intervention.

##### **Course Content**

1.1	Philosophy of management	02hrs
1.2	Prioritizing needs, goal setting and action plans.	04hrs
2.1	Specific intervention strategies – persons with disability.	04hrs
2.1.1	Early stimulation/play.	04hrs
2.1.2	Handling and transfer techniques	04hrs
2.1.3	Positioning and support – postural aids and postural management.	04hrs
2.1.4	Basic exercises – indication and type	02hrs
2.1.5	Mobility aids and training	04hrs
2.1.6	Pre and post operative management	02hrs
2.1.7	Self – care and independence training	04hrs
2.1.8	Orthotic aids and assistive devices – types and use in Cerebral Palsy and other Neurological conditions.	04hrs
2.2	Specific intervention strategies – family and community	04hrs
2.2.1	Parent education and training	04hrs
2.2.2	Family support	04hrs
2.2.3	Accessing community support systems.	04hrs
2.2.4	Selection of intervention techniques for holistic individual	

programme plan	04hrs
2.2.5 Basic record keeping and report writing	04hrs
2.2.6 Monitoring and reviewing progress	04hrs
3.1 Interpretation and application of prescribed specialized programmes.	04hrs
4.1 Guidelines for referral	04hrs

## **PRACTICALS**

**324 Hrs.**

Case Study	105 hrs
Project Placements	204 hrs
Referral Kits	15 hrs

## **REFERENCE BOOKS FOR Paper I, II & III**

1. Finnie, N.R. Handling the young cerebral palsied child at home (U.S. Edition), New York; Penguin Books USA Inc.
2. Sophie Levitt, Treatment of Cerebral Palsy and Motor Delay, Blackwell Scientific Publications, Oxford.
3. Dr. A. Mervin Fpx, An Introduction to Neuro-developmental Disorders of Children, National Trust.
4. Fischer, Murray, Bundy, Sensory Integration – Theory and Practice F.A. Davis Co. Philadelphia.
5. Payne, Miller, Hazlet, Mercer. Rehabilitation Techniques – Vocational Adjustment for the Handicapped. Human Sciences Press Inc. New York
6. Blanche, Botticelli, Hallway. Combining Neuro-developmental treatment and Sensory Integration Principles. Therapy Skill Builders. Texas.
7. Finnie Handling the young children with Cerebral Palsy at Home. Butterworth Heinemann, Oxford.
8. Lewit Manipulative Therapy in Rehabilitation of the Locomotor System. Butterworth & Co. Ltd. London
9. Michael W. Whittle. Galt Analysis – An Introduction. Butterworth, Heinemann
10. Barr & Swan. The Hand – Principles and Techniques of Splint Making Butterworth, London
11. Keats, Cerebral Palsy. Charles Thomas. Publisher Springfield USA
12. Clark, Wilgis, Aiello, Eckhaus, Waldate Eddington. Hand Rehabilitation – A practical Guide. Churchill Livingstone, New York

13. Bobath. Motor Development in the Different Types of Cerebral Palsy. William Heinemann Medical Books Ltd., London
14. Bunch – Introduction to Orthotics.
15. Jane Case Smith. Pediatric Occupational Therapy and Early ;Intervention. Andover Medical Publisher, Boston London.
16. Snell, M.E. Introduction to students with severe disabilities. Columbus: Merrill.
17. Krajicek, N.J. Detection of Developmental Problems in children: Birth to Adolescence (2<sup>nd</sup> Edition). Baltimore:: University Park Press.
18. Orelove, F.P. & DickSobsey, R.N. educating Children with multiple disabilities – A transdisciplinary approach Baltimore, Maryland: Paul. H. Brookes Publishing Co.
19. Peterson. N. Early Intervention for handicapped and at risk ;children Colarato: Love Publishing Co.
20. Rosenblith, J.F. In the beginning: Development from conception to age two (II Edition), California: Sage Publications.
21. Shebba, J. The Education of people with profound and multiple handicaps, Manchester, U.K.: Manchester Unvie. Press.
22. Zelle, R.S. & Coyner, A.B. Developmentally disabled infants and toddlers – Assessment and intervention, Philadelphia: F.A. Davis Company.

## **INTERNSHIP – 6 MONTHS**

### **Objectives**

To be able to independently assess and prepare appropriate, holistic intervention plans across three levels – Persons with Disability, family and community, for atleast 3 individuals with varying variables including age, sex, severity of disability and economic background.

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