

Subject Code: 1RI3000102	Subject Title: Essentials of Disciplinary Research Subject-1 Subject Sub-Title: Neuro Physiotherapy
Pre-requisite Subject	NIL

DHARTI SHAH

Objectives of course: This subject will help scholar to understand the specialty Physiotherapy subject from evidence based perspective.

Learning outcomes: On the completion of the course Scholar should be able to;

1. Understand the basic concepts related to Neuro Physiotherapy.
2. It will help how to identify different disorders their symptoms and path physiology.
2. It will enable the scholar to plan the evidence based Physiotherapy management of Neurological conditions.

Teaching Scheme (Credit Distribution)				Assessment Scheme (Weightage)	
Lecture	Tutorial	Practical	Credit	Hall Exam	Continuous Evaluation
4	--	--	4	60%	40%

Continuous evaluation is based on assignments/quiz/presentation/small projects as per the supervisor instructions.

Subject Content			
Unit	Topic	No. of Lecture	Weightage %
1	Anatomy and Physiology of Nervous System.	4	5
2	Normal sequential behavioral and Physiological changes throughout the developmental arc.	4	5
3	Neurophysiology of balance, coordination and locomotion.	4	5
4	Clinical symptomatology and Pathophysiology of the neurological disorders	4	5
5	Principles of clinical neuro diagnosis and investigation.	4	5
6	Various Evaluation Scales and Assessment methods used in neurological rehabilitation.	4	5
7	Electrodiagnosis: a. Neurophysiology of Nerve conduction studies and Electromyography. b. Instrumentation of Electrical stimulator, EMG, SFEMG, NCS (Nerve Conduction Studies). c. Electrical study of	5	10

	reflexes (H- reflex, Axon reflex, F- response, Blink reflex, Jaw jerk, Tonic Vibration Reflex). d. Repetitive nerve stimulation. e. Evoked potentials (SSEP, MEP, BAERA, and VER). f. Interpretation of neurophysiologic responses in Neuropathy, myopathy and neuromuscular disorders.		
8	Evaluation of A.N.S dysfunction with reference to psycho-physiological testing. Biofeedback training	4	5
9	Neuro-psychological functions. Perception testing and training.	4	5
10	Theories of motor control and theories of motor learning, its application in physiotherapy.	4	10
11	Common facilitatory and inhibitory techniques.	4	10
12	Treatment approaches in neurological rehabilitation: Bobath, NDT, SI, Brunnstrom, Roods, PNF, Vojta, MRP, MFR	5	10
13	Musculoskeletal treatment concept applied to neurology: Adverse neural tissue tension tests in upper limb and lower limb.	5	10
14	Recent advances in Neuro Physiotherapy	5	10

List of References:

1. Maurice Victor: Adams and victor's principles of neurology 9th Ed. McGraw Hill Professional, USA, 2009.
2. Lindsay Kenneth: Neurology and neuro surgery illustrated ,1sted.,Churchil livingstone , 1986.
3. Jhon pattern: Neurological differential diagnosis ,2nded.,Springer,new York ,2005
4. Geraint fuller :Neurological examination made easy ,3rd ed .,Elsevier, Philadelphia ,2004.
5. Campbell K .Suzann: Physical therapy for children, 3rded., W.B Saunders, Philadelphia , 2003.
6. Darcy A Umphred : Neurological rehabilitation ,5thed .,Mosby Elsevier,2007.
7. Knot M. and Voss: Proprioception neuro muscular facilitation techniques, 3rd ed.,Springer, New York , 2008.
8. SueRane,linzi meadows,: Bobath concept theory and practice in neurological rehabilitation ,wiley Blackwell,U.K 2009.
9. Ida Bromely: Tetraplegia and Paraplegia A guide for physiotherapist ,6thed.,Churchill Livingstone,Edinburgh ,2006.
10. William s.pease : Johnson's practical electro myography ,4thed.,Lippincott Williams &Wilkins , USA,2007.

REFERENCE JOURNAL :

1. Physical Therapy (APTA, America)
2. Physiotherapy (CSP London)
3. American Journal Of Physical Medicine And Rehabilitation.
4. Physiotherapy (Canada)
5. Physiotherapy Theory And Practice.
6. Australian Journal Of Physiotherapy
7. Journal Of Indian Association Of Physiotherapy
8. Clinical Kinesiology
9. Journal Of Biomechanics
10. American Journal Of Sports Exercises.
11. Pediatric Physical Therapy.
12. Journal Of Neurologic Physical Therapy.
13. Journal Of Rehabilitation Research And Development.
14. Journal of Cardio Pulmonary Rehabilitation.
14. Archives Of Physical Medicine And Rehabilitation.
15. Journal Of Pediatric Orthopedics.
16. Journal Of Neurological Sciences.
17. Clinical Rehabilitation.
18. Spine.
19. Manual Therapy.
20. Gait And Posture.

Subject Code: 1RI3000103	Subject Title: Essentials of Disciplinary Research Subject-2 Subject Sub-Title: Physiotherapy
Pre-requisite Subject	NONE

COMMON TO ALL FOUR SCHOLARS

Objectives of course: This subject will help scholar to understand the Physiotherapy assessment of individuals with different disorders.

Learning outcomes: On the completion of the course Scholar should be able to;

1. Understand the basic concepts related to assessments.
2. It will help how to understand clinical guidelines pertaining to physiotherapy.
2. It will enable the scholar to practice evidence based Physiotherapy interventions.

Teaching Scheme (Credit Distribution)				Assessment Scheme (Weightage)	
Lecture	Tutorial	Practical	Credit	Hall Exam	Continuous Evaluation
4	--	--	4	60%	40%

Continuous evaluation is based on number of assignments/tutorials/presentations/laboratory practicals /small projects as per the instructions by the concerned supervisors.

Unit	Content	Wt. (%)
1	Outcome measures and assessment scale for Orthopedic Disorders	10
2	Outcome measures and assessment scale for Neurological Disorders	10
3	Outcome measures and assessment scale for Cardiac Disorders	10
4	Outcome measures and assessment scale for Respiratory Disorders	10
5	Outcome measures and assessment scale for Sports Injuries	10
6	Outcome measures and assessment scale for Pediatric Disorders.	10
7	Extended physiotherapy practice	10
8	Clinical guidelines and clinical prediction rules	10
9	Evidence based Physiotherapy practice	10
10	Recent advances in Physiotherapy	10

List of References:

1. Magee, D.J: Orthopaedic physical assessment, 3rd edition, WB saunders, Philadelphia 1997.
2. Hillegas, E.A. & Sadowsky, H.S: Essentials of cardiopulmonary physical therapy, 2nd ed, Harcourt Brace & Company, Toronto, 2001. 2. Irwin, S. & Teklin, J.S: Cardiopulmonary physical therapy, 4th ed. St. Louis, Mosby. 2004.
3. .American College of Sports Medicine: Guidelines for exercise testing and prescription, 4th ed, Lea & Febiger, Philadelphia, 1991.

4. Elements of paediatric physiotherapy- Eckerley P, Churchill Livingstone, Edingburgh, 1993 19.
Physiotherapy in pediatrics – Shepherd R. Heinmann, London, 1980 2nd edition
5. Physical rehabilitation: assessment and treatment – O’Sullivan, F.A Davis, Philadelphia 1994.
6. Pulmonary rehabilitation: guidelines to success – Hoidkins, Butterworth, Boston, 1984.
7. 58. Cardiac rehabilitation – Amundsen I.R, Churchill, Livingstone, London 1988
8. Physical therapy for children – Campbell Suzann K, W.B Saunders, Philadelphia 1994
9. 17. Physical management of Multiple Handicapped – Freser, William & Wilkins, Baltimore.
10. 18. Elements of paediatric physiotherapy- Eckerley P, Churchill Livingstone, Edingburgh, 1993 19.
Physiotherapy in pediatrics – Shepherd R. Heinmann, London, 1980 2nd edition
11. Michelle H.Cameron: Physical agents in rehabilitation from research to practice,3rd Ed,
Saunders,2008.

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1. Physical Therapy (APTA, America)
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10. American Journal Of Sports Exercises.
11. Pediatric Physical Therapy.
12. Journal Of Neurologic Physical Therapy.
13. Journal Of Rehabilitation Research And Development.
14. Journal of Cardio Pulmonary Rehabilitation.
14. Archives Of Physical Medicine And Rehabilitation.
15. Journal Of Pediatric Orthopedics.
16. Journal Of Neurological Sciences.
17. Clinical Rehabilitation.
18. Spine.
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20. Gait And Posture.