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|---------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Subject Code:</b> 1RI3000102 | <b>Subject Title:</b> Essentials of Disciplinary Research Subject-1<br><b>Subject Sub-Title:</b> Orthopedic Physiotherapy |
| <b>Pre-requisite Subject</b>    | NONE                                                                                                                      |

**KAIRAVI TRIVEDI**

**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 Orthopedic 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 orthopedic 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 number of assignments/tutorials/presentations/laboratory practicals/small projects as per the instruction by the concerned supervisors.

| Unit | Content                                                                                                                                 | Wt. (%) |
|------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1    | Applied anatomy with emphasis on Biomechanics & Kinesiology of Human motion and Work Physiology                                         | 5       |
| 2    | Clinical assessment and rationale of Laboratory investigations along with differential diagnoses.                                       | 3       |
| 3    | Clinical Symptomatology, Pathophysiology and Patho-mechanics of musculoskeletal conditions                                              | 6       |
| 4    | Physiotherapy management following fractures, dislocations and their complications, Amputations, cumulative trauma disorders and Burns. | 3       |
| 5    | Physiotherapy management in degenerative disorders and allied conditions.                                                               | 3       |
| 6    | Physiotherapy in post operative management of metabolic, hormonal, neoplastic and infective conditions of bones and joints.             | 3       |
| 7    | Physiotherapy following arthroplasty, implants and soft tissue repairs.                                                                 | 3       |
| 8    | Pre & post operative physiotherapy in tendon transfer. Electrical stimulation and biofeedback procedures.                               | 3       |
| 9    | Kinetic and kinematics analysis for various functional activities.                                                                      | 4       |
| 10   | Functional assessment (Hand function, Gait, Posture A.D.L; occupational work).                                                          | 4       |

|    |                                                                                                                                                          |   |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 11 | Hand Rehabilitation.                                                                                                                                     | 3 |
| 12 | Assessment of locomotor impairments, disabilities and disability evaluation.                                                                             | 3 |
| 13 | Physiotherapy management of locomotor disorder, principles of medical and surgical aspects, sports psychology and retraining.                            | 3 |
| 14 | Neurological complications of locomotor disorders.                                                                                                       | 2 |
| 15 | Analysis and classification of sports and sports specific injuries and its management.                                                                   | 4 |
| 16 | Management of sport injuries, sports fitness                                                                                                             | 4 |
| 17 | Principles of Injury Prevention                                                                                                                          | 3 |
| 18 | Medico legal issues in sports, Sports Psychology, Sports Nutrition and Sports pharmacology.                                                              | 4 |
| 19 | Rehabilitation of paediatric musculoskeletal disorders.                                                                                                  | 3 |
| 20 | Orthopaedic implants-designs, materials, indications, post-operative assessment and training.                                                            | 2 |
| 21 | External aids, appliances, adaptive self-help devices; prescription, biomechanical compatibility, check-out and training.                                | 2 |
| 22 | Manual therapy: soft tissue manipulations and mobilization, neural mobilization, acupressure. (Cyriax, Maitland, Butler, McKenzie, Kaltenborn, Mulligan) | 5 |
| 23 | Pilates-school of thought, Chiropractic school of thought, Osteopathic school of thought                                                                 | 3 |
| 24 | Myofascial Release technique and Muscle Energy technique                                                                                                 | 3 |
| 25 | Joint manipulation – peripheral joints and vertebral joints.                                                                                             | 4 |
| 26 | Neuromuscular Taping Techniques                                                                                                                          | 2 |
| 27 | Electro diagnosis: Electromyography and evoked potential studies. .                                                                                      | 2 |
| 28 | Community based rehabilitation in musculoskeletal disorders.                                                                                             | 3 |
| 29 | Recent Advances in Musculoskeletal Disorders and Sports Physiotherapy.                                                                                   | 8 |

#### **List of References:**

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2. Clinical biomechanics of spine – White A,A and Panjabi-J.B Lippincot, Philadelphia 1978.
3. Kinesiology – Brunnstrom Singe, F.A. Davis- Philadelphia – 1966 4. Text book of work physiotherapy – Guyton, Prim Books Bangalore-1991 8th edition
5. Hand book of physiology in Aging- Masoro, C.R.C Press, 1981
6. Research for physiotherapists- Hicks C., Churchill Living stone, Edingburgh 1995 Ed.\$
7. Introduction to Research in Health Sciences-Polgar S, Churchill Livingstone, London, 1988.
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10. Physical therapy Research- Domholdt, W.B Saunders, Philadelphia. 1993
11. Public power & Administration – Wilenski, Hale & Iremonger, 1998.

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13. Management Principles for physiotherapists – Nosse Lorry J.
14. Human neuroanatomy – Carpenter M.B, Williams & Wilkins, Baltimore, 1983
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16. Physical therapy for children – Campbell Suzann K, W.B Saunders, Philadelphia 1994
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19. Physiotherapy in pediatrics – Shepherd R. Heinmann, London, 1980 2nd edition
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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.

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|---------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Subject Code:</b> 1RI3000103 | <b>Subject Title:</b> Essentials of Disciplinary Research Subject-2<br><b>Subject Sub-Title:</b> Physiotherapy |
| <b>Pre-requisite Subject</b>    | 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:**

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3. .American College of Sports Medicine: Guidelines for exercise testing and prescription, 4th ed, Lea & Febiger, Philadelphia, 1991.

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9. Journal Of Biomechanics
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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.