

# STUDY & EVALUATION SCHEME OF MASTER OF PHYSIOTHERAPY

(MPT - I YEAR/ I SEMESTER)

[Applicable w.e.f. Academic Session 2020-21 till revised]



**INTEGRAL UNIVERSITY, LUCKNOW**  
**DASULI, P.O. BAS-HA KURSI ROAD,**  
**LUCKNOW - 226026**

Website: [www.iul.ac.in](http://www.iul.ac.in)

Approved by

Syllabus approved by Board of Study, Faculty Board, Academic Council,  
Executive Council of the Integral University, Lucknow



**STUDY & EVALUATION SCHEME  
MASTER OF PHYSIOTHERAPY (MPT)  
(w.e.f. July 2020)**

**I - Year**

**I - Semester**

S. No.	Subject Code	Name of Subjects	Periods			Credits	Evaluation Scheme				Subject Total
			L	T	P		Sessional			Exa m	
							CT	TA	Total	ESE	
1.	PT 501	Basic Health Sciences	3	1	0	4	40	20	60	40	100
2.	PT 502	Advanced Electrotherapy and Electrodiagnosis	3	1	0	4	40	20	60	40	100
3.	PT 503	Research Methodology, Biostatistics	3	1	0	4	40	20	60	40	100
4.	PT 504	Exercise Testing & Prescription	3	1	0	4	40	20	60	40	100
5.	PT 505	Seminar on Clinical Issues	0	3	0	3	50	50	100	--	100
6.	PT 506	Clinical Training	0	0	14	7	50	50	100	--	100
<b>Total</b>			<b>12</b>	<b>07</b>	<b>14</b>	<b>26</b>	<b>260</b>	<b>180</b>	<b>440</b>	<b>160</b>	<b>600</b>

**L:** Lecture

**T:** Tutorials

**P:** Practical

**CT:** Class Test

**TA:** Teacher Assessment

**ESE:** End Semester Examination

**Sessional Total:** Class Test + Teacher Assessment

**Subject Total:** Sessional Total + End Semester Examination (ESE)

**Subjects Code:** M, N, C, S, G, B

**M=** Musculoskeletal Branch,

**N=** Neurology Branch,

**C=** Cardiopulmonary Branch

**S=** Sports Physiotherapy Branch

**G=** Obstetrics and Gynaecology Branch

**B=** Biomechanics Branch



**SUBJECT NAME: BASIC HEALTH SCIENCES**  
**SUBJECT CODE: PT 501M**  
**(W.e.f. July 2015)**

**L T P**  
**3 1 0**

**UNIT-I ANATOMY:**

**(8 Hours)**

1. Micro structure for various soft tissue structures like Ligaments, Muscle, bone, cartilage, articular cartilage tendon and disc.
2. Embryology (ossification of various bones).
3. Musculoskeletal anatomy of human body.
4. Joints and Its Classification.

**UNIT-II PHYSIOLOGY:**

**(8 Hours)**

1. Cell and its function.
2. Electrophysiology, Membrane potential.
3. Muscle Physiology, Contraction of skeletal muscle.
4. Effects of ageing.

**UNIT-III PATHOLOGY:**

**(8 Hours)**

1. Immune system: Immune response, immunology and exercise, autoimmune diseases, iso immune diseases.
2. Oncology.
3. Response to trauma, specific tissue injury.
4. Metabolic disorders.
5. Tuberculosis–musculoskeletal.

**UNIT-IV PHARMACOLOGY:**

**(8 Hours)**

1. Pharmacokinetics and Pharmacodynamics.
2. Anti-Anaemic
3. Hormones
4. Insulin
5. Steroids
6. Diuretics

**UNIT-V RADIOLOGY:**

**(8 Hours)**

Basics of Imaging Techniques in Orthopaedic conditions

1. Ultrasonography
2. X-rays
3. CT Scan
4. MRI scanning
5. Bone Scan
6. DEXA Scan

**RECOMMENDED BOOKS:**

1. Gray's Anatomy
2. Pharmacology in Rehabilitation. Ciccone
3. Clinical Anatomy – Snell
4. Boyd's Textbook of Pathology – A.C. Ritchie
5. Textbook of Medical Physiology - Guyton - Mosby.
6. Pathologic Basis of Diseases - Robbins, Kotran and Kumar - W.B. Saunders.

**SUBJECT: BASIC HEALTH SCIENCES**  
**SUBJECT CODE: PT 501N**  
**(w.e.f. July 2015)**

L T P  
3 1 0  
**(8 Hours)**

**UNIT-I ANATOMY :**

1. Introduction to Nervous system and its subdivisions
2. Anatomy of the Neuron
3. Anatomy of the Reflex Arc
4. Structure of spinal cord with a detailed study of ascending and descending Tracts
5. Anatomy of cerebrum and Brodman's classification.
6. Blood Supply of the Brain
7. Anatomy of Cerebellum, Brainstem and Basal Ganglia
8. Limbic system

**UNIT-II PHYSIOLOGY:**

1. Synapse and its transmission
2. Sensory Receptors and Their Basic Mechanisms of Action
3. Physiology of Muscle tone and study of spasticity
4. Physiology of Muscle contraction
5. Neural Plasticity
6. Neural transmitters and their functions

**UNIT-II PATHOLOGY:**

1. Introduction to inflammation and immune system.
2. Infections like meningitis and encephalitis
3. Alzheimer's disease
4. Multiple Sclerosis
5. Parkinson's Disease
6. Stroke
7. Response of Peripheral Nerves to Injury

**UNIT-IV PHARMACOLOGY:**

1. Pharmacokinetics and pharmacodynamics.
2. Anti depressant drugs
3. Anti-Parkinson drugs
4. Skeletal muscle relaxants
5. Anti-Convulsants
6. Local and General Anaesthetics
7. Drugs affecting ANS.

**UNIT-V RADIOLOGY:**

- Basics of Imaging Techniques in Neurology conditions
1. Lumbar puncture
  2. EMG and NCV
  3. Electroencephalography
  4. C. T, MRI and PET
  5. Evoked Potentials
  6. Nerve and muscle biopsy

**RECOMMENDED BOOKS:**

1. Gray's Anatomy
2. Neuro-anatomy. Snell
3. Pharmacology in Rehabilitation. Ciccone
4. Principles of Neuroscience. E Kandel, J Schwartz, T Jessell
5. Boyd's Textbook of Pathology – A. C. Ritchie

**SUBJECT NAME: BASIC HEALTH SCIENCES**  
**SUBJECT CODE: PT 501C**  
**(w.e.f. July 2015)**

L T P  
3 1 0  
**(8 Hours)**

**UNIT-I ANATOMY:**

1. Coronary Circulation
2. Structure of the Myocardium
3. Nerve Supply of the Heart.
4. Anatomy of the Upper and Lower Respiratory Tract
5. Bronchopulmonary Segments.

**UNIT-II PHYSIOLOGY:**

1. Cardiac Physiology and Circulation
  - a) Physiology of Cardiac Muscle
  - b) Cardiac Cycle
  - c) Rhythmic Excitation of the Heart
  - d) Blood Pressure
  - e) Heart Sounds
2. Respiration
  - a) Pulmonary Volumes and Capacities
  - b) Principles of Gas Exchange
  - c) Regulation of respiration
  - d) Mechanisms of Respiration
3. Body Fluids and Kidney
  - a) Oedema
  - b) Capillary Dynamics

**UNIT-III PATHOLOGY:**

1. CVS-Diseases of CVS
2. Hematological System
  - a) Blood transfusion
  - b) PVD
3. Respiratory System
  - a) Restrictive Lung Disease
  - b) Obstructive Lung disease
  - c) Environmental and Occupational Disease

**UNIT-IV PHARMACOLOGY:**

1. Pharmacokinetics and Pharmacodynamics
2. Anti-Anaemic
3. Anti-Coagulants
4. Thrombolytic Agents
5. CV Drugs
6. Drugs Affecting Respiratory System

**UNIT-V RADIOLOGY:**

Basics of Imaging Techniques in Cardiopulmonary conditions

1. Ultrasonography
2. X-rays
3. CT Scan
4. MRI scanning
5. Bone Scan
6. Dexa Scan

**RECOMMENDED BOOKS:**

1. Gray's Anatomy
2. Pharmacology in Rehabilitation. Ciccone
3. Clinical Anatomy – Snell
4. Boyd's Textbook of Pathology – A. C. Ritchie
5. Textbook of Medical Physiology - Guyton - Mosby.
6. Pathologic Basis of Diseases - Robbins, Kotran and Kumar - W.B. Saunders.

**SUBJECT NAME: BASIC HEALTH SCIENCES**  
**SUBJECT CODE: PT 501S**  
**(w.e.f. July 2015)**

**L T P**  
**3 1 0**

**UNIT-I ANATOMY:**

**(8 Hours)**

1. Anatomy of the Nerve Injuries
2. Bodily Habitus
3. Anatomical Angles and stiff joints
4. The pathology of nerve, bones in terms of anatomy
5. Anatomical basis of clinical tests

**UNIT-II PHYSIOLOGY:**

**(8 Hours)**

Brief about followings-

1. Blood
2. Cardiovascular system
3. Neuromuscular System
4. Respiratory System
5. Temperature regulation
6. Endocrine System

**UNIT-II PATHOLOGY:**

**(8 Hours)**

1. Immune system: Immune response, immunology and exercise, autoimmune diseases, isoimmune diseases.
2. Oncology.
3. Response to trauma, specific tissue injury.
4. Metabolic disorders.
5. Osteoporosis.
6. Inflammation of the bursa and tendon

**UNIT-IV PHARMACOLOGY:**

**(8 Hours)**

1. Pharmacokinetics and Pharmacodynamics.
2. Anti-Anemic.
3. Hormones.
  - a) Insulin
  - b) Steroids
4. Diuretics.
5. Drugs Affecting Respiratory System and CNS.

**UNIT-V RADIOLOGY:**

**(8 Hours)**

1. Basics of radiology including Ultrasonography CT & MRI scanning
2. Imaging of the head and neck.
3. Imaging of spine.
4. Imaging of pelvis, hip and thigh.
5. Imaging of Patello Femoral Joint & Knee joint.
6. Imaging of the lower leg, foot and ankle.

**RECOMMENDED BOOKS:**

1. Synopsis of Surgical Anatomy - John Wright & Sons, Bristol
2. Gray's Anatomy - Williams & Warwick - Churchill Livingstone.
3. Grants - Methods of Anatomy - Basmajian & Sloncker - Williams & Wilkins.
4. Clinical Anatomy for Medical Students - Snells - Lippincott.
5. Textbook of Medical Physiology - Guyton - Mosby.
6. Pathologic Basis of Diseases - Robbins, Kotran and Kumar - W.B. Saunders.

**SUBJECT NAME: BASIC HEALTH SCIENCES**  
**SUBJECT CODE: PT 501G**  
**(w.e.f. July 2019)**

**L T P**  
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**UNIT I- (ANATOMY OF PELVIC GIRDLE, BREAST AND FEMALE REPRODUCTIVE SYSTEM)**

**(8 Hours)**

1. Pelvic Anatomy (Pelvic bone, Pelvic girdle, Types of Pelvis)
2. Pelvic floor muscle, Abdominal muscle
3. Female Pelvic Organ (Uterus, Ovaries, Cervix, Vagina, Bladder)
4. Anatomy and development of Breast.

**UNIT II- (PHYSIOLOGY OF PELVIC ORGAN, LACTATION AND FEMALE REPRODUCTIVE SYSTEM)**

**(8 Hours)**

1. Physiological changes during Puberty
2. Physiology of Menstrual cycle and menopause
3. Physiology of Urinary bladder
4. Physiology of Lactation

**UNIT III- (PREGNANCY AND LABOUR)**

**(8 Hours)**

1. Pregnancy and fetal development
2. Physical and physiological changes of pregnancy
3. Stages of labour
4. Physical and physiological changes of labour

**UNIT IV- (PHARMACOLOGY)**

**(8 Hours)**

1. Drugs precaution, Contra indication during pregnancy
2. Anti anemic and anti depressant drugs
3. Calcium, Vitamin D and minerals
4. Hormones

**UNIT V- (RADIOLOGY)**

**(8 Hours)**

1. Indication, Contra indication and precaution of Radio diagnostic modalities
2. Ultrasound and Colour Doppler, TVS
3. MRI and CT Scan
4. Fetal Doppler

**RECOMMENDED BOOKS**

1. Gray's Anatomy – William & Warwick- Churchill Livingstone
2. Textbook of Medical Physiology - Guyton - Mosby.
3. Pharmacology in Rehabilitation-Ciccone
4. Anatomy and Physiology Applied to Obstetrics-Sylvia Verralls
5. Ultrasonography in Obstetrics and Gynecology - Carol B Benson

**SUBJECT NAME: BASIC HEALTH SCIENCES**  
**SUBJECT CODE: PT 501B**  
**(w.e.f. July 2019)**

**L T P**  
**3 1 0**

**UNIT I- (GENERAL ANATOMY) (8 Hours)**

1. Bone , Joint and Muscle
2. Cartilage, ligament and Bursa
3. Nerve and vessels
4. Fascia and Tendon

**UNIT II- (GENERAL PHYSIOLOGY) (8 Hours)**

1. Bone growth, Modeling and Remodeling
2. Muscle, Physiology of muscle contraction
3. Nerve physiology and NMJ
4. Hormone physiology ( Parathyroid, Thyroid, Calcitonin, Relaxin)

**UNIT III- (PATHOLOGY) (8 Hours)**

1. Homeostasis, Inflammation and repair
2. Tissue healing(Tendon, ligament, Muscle, Cartilage)
3. Fracture healing
4. Nerve injury and healing

**UNIT IV- (PHARMACOLOGY) (8 Hours)**

1. Chondroitin, Glucosamine, Dicerine
2. Collagen peptide, Hyaluronic acid, Diuretics
3. Calcium, Minerals, Vitamin D and C
4. NSAIDS, Hormones (Calcitonin, Parathyroid, Thyroid)

**UNIT V- (RADIOLOGY) (8 Hours)**

1. Xray, Bone Scan
2. CT, MRI, Dexa scan
3. US, BMD
4. EMG, NCV

**RECOMMENDED BOOKS**

6. Gray's Anatomy – William & Warwick- Churchill Livingstone
7. Textbook of Medical Physiology - Guyton - Mosby.
8. Pharmacology in Rehabilitation- Ciccone
9. Boyd's Textbook of Pathology – A.C. Ritchie
10. Radiology and medical imaging for medical students- David Sutton



**SUBJECT NAME: ADVANCED ELECTROTHERAPY AND ELECTRODIAGNOSIS**  
**SUBJECT CODE: PT 502**  
**(W.e.f. July 2015)**

**L T P**  
**3 1 0**

**UNIT-I:**

1. Neurophysiology basis for application of therapeutic electricity. **(2 hour)**
  - a) Nerve and muscle excitation induced by external applied stimulation
  - b) Reflex activation and synaptic transmission, Excitation of alpha motor neurons
2. Electrophysiology of pain and its management **(3hour)**
3. Electrodiagnostic and electrotherapeutic instrumentation **(3 hour)**
  - a) Types of stimulation electrodes, Placement of electrodes
  - b) Different components in diagnostic equipments e.g. processor, amplifiers, processors, rectifiers and display devices.
  - c) Signal processor and amplification and filtering.

**UNIT-II:**

1. Recent advances in application of TENS for neuromuscular and musculoskeletal rehabilitation. **(2hours)**
2. Role of different electrotherapeutic modalities in management of pain and healing. **(3hours)**
3. Clinical decision making in the use of appropriate modality in neuromuscular, musculoskeletal, Neurological, cardiopulmonary, and sports conditions. **(3hour)**

**UNIT-III:**

1. Electrical evaluation of nerve and muscle excitability **(4 Hours)**
  - a) SD curve and chronaxie test.
  - b) Nerve conduction test Motor nerve conduction-
    - Motor nerve conduction, Sensory nerve conduction, H-reflex response, Evoked potential tests (Somatosensory evoked potentials, Visual evoked potentials and Auditory evoked potentials)
2. Electromyography and bio-feed back **(4 Hours)**
  - a) Biophysical principles, Clinical considerations, Clinical application of musculoskeletal patients, Clinical application of neuromuscular patients.
  - b) Role of E.M.G.B.F.B in sports training and rehabilitation.
  - c) EMG- Normal, abnormal EMG and indications.

**UNIT-IV:**

1. Extracorporeal Shock Wave Therapy **(3hours)**
  - a) Biophysical and Biophysiological principals
  - b) clinical application in musculoskeletal rehabilitation
  - c) Future prospects of E.S.W.T. in musculoskeletal rehabilitation
2. F.E.S. in Rehabilitation **(2Hours)**

- a) Evidence based practice
  - b) Clinical application
3. NMES and clinical applications: **(3hour)**
- Disuse atrophy, ROM, Muscle re-education and facilitation, Spasticity management, Orthotic substitution, Gait training, Shoulder subluxation.

**UNIT-V:**

**(8hours)**

Recent advances, critical evaluation and current status of different electrotherapeutic modalities like pulsed and continuous diathermy, pulsed and continuous microwave diathermy, Ultrasonic Therapy, LASER, Thermotherapy, Cryotherapy, Infra Red, etc. In musculoskeletal, neuromuscular, sports and cardiovascular rehabilitation.

**RECOMMENDED BOOKS:**

1. Electrodiagnosis in Diseases of Nerve and Muscle: Principles and Practice. Kimura J
2. Electrotherapy: Evidenced based Therapy by Sheila Kitchen
3. Clinical Electrotherapy & Electrophysiological Testing by Andrew J Robinson
4. Electrotherapy/; Evidenced based practice by Tim Watson
5. Physical Agents in Rehabilitation - Cameron
6. Practical Electrotherapy, John Fox; Elsevier

**SUBJECT NAME: RESEARCH METHODOLOGY AND BIostatISTICS**

**SUBJECT CODE: PT 503**

**(W.e.f. July 2015)**

**L T P**

**3 1 0**

**RESEARCH METHODOLOGY**

**UNIT-I: (8Hour)**

1. An introduction to research methodology.
2. Defining the research problem.
3. Review of literature/use of IT & Database for ROL.
4. Research Design–Experimental & Non-experimental.
5. Measurement and scaling techniques.
6. Methods of data collection.
7. Sampling.
8. Level of evidence.

**UNIT-II: (8hour)**

1. Research ethics.
2. Writing proposal, & Writing in scientific style.
3. Use of animals in research.
4. Critiquing article.
5. Choosing & Developing Research question.
6. Presenting research Proposal.
7. Applying for research funding.

**UNIT-III: (8Hour)**

1. Writing thesis & journal article.
2. Presenting research.
3. Attending a scientific conference.
4. Preparing a conference poster .
5. Guidelines for development/ refinement, evaluation and use of assessment tools (including attitude scales): scoring, administering tests & critiquing tools.
6. Research in rehabilitation.

**BIostatISTICS**

**UNIT-IV: (8Hour)**

1. Types of data, collection, representation, measure of central tendency, variation, and association.
2. Processing and analysis of data and Interpretation.
3. Testing of hypothesis (parametric or standard tests of hypotheses, non parametric or distribution-free tests).
4. Statistical analysis for differences and correlation: Basic, Advanced special technique.
5. Analysis of variance and covariance.
6. Multivariate analysis techniques.

**UNIT-V:****(8Hour)**

1. Sample size estimation and power calculation.
2. Qualitative analysis.
3. Rasch analysis.
4. Software use for data analysis – STATA, SPSS etc.
5. Repertory grid analysis and its application to health care research.
6. Delphi technique (to arrive at a consensus of professional opinion on any given topic).

**RECOMMENDED BOOKS:**

1. Handbook of Research in Physical Therapy, by C. E. Bork
2. Physical Therapy Research: Principles and Application, by E. Domholdt
3. Research Methodology for Physical Therapists, by C. Hicks
4. Professionalism in Physical Therapy by Swisher
5. Introduction to Research in Health Sciences, by Stephen Polgar

**SUBJECT NAME: EXERCISE TESTING AND PRESCRIPTION**  
**SUBJECT CODE: PT 504**  
**(w.e.f. July 2015)**

**L T P**  
**3 1 0**

**UNIT-I LIFESTYLE FACTORS ASSOCIATED WITH HEALTH AND DISEASE:**  
**(8 Hours)**

1. Factors associated with increased risk of Coronary Heart Disease.
2. General overview of Pre-participation Health screening and risk assessment,
3. Physical Activity Assessment
4. Relationship of Nutrition to Chronic Diseases
5. Assessment of Dietary Intake
6. The Influence of Emotional Distress on Chronic Illness

**UNIT-II PHYSICAL FITNESS, CLINICAL, AND DIAGNOSTIC ASSESSMENTS:**  
**(8 Hours)**

1. Body Composition
2. Muscular Fitness
3. Clinical Exercise Testing related to Cardiovascular Disease.
4. Assessment and Limitations Associated with Pulmonary Disease
5. Exercise Testing in Patients with Diabetes
6. Clinical Exercise Testing in Individuals with Disabilities Due to Neuromuscular Disorders

**UNIT-III Exercise Prescription, Exercise Programming and Adaptations to**  
**Exercise Training:** **(8 Hours)**

1. Cardiopulmonary Adaptations to Exercise.
2. Adaptations to Resistance Training.
3. Principles of Cardiorespiratory Endurance Programming.
4. Principles of Musculoskeletal Exercise Programming.
5. Weight Management.
6. Medical Considerations.

**UNIT-IV EXERCISE TESTING AND TRAINING FOR INDIVIDUALS WITH CHRONIC**  
**DISEASE:** **(8 Hours)**

1. Exercise Training in Patients with Cardiovascular Disease.
2. Treatment and Rehabilitation of Pulmonary Diseases
3. Exercise in patients with end stage Renal Disease.
4. Osteoporosis and Exercise.
5. Arthritis Diseases and Conditions
6. Neuromuscular Diseases and Exercise.

**UNIT-V HUMAN BEHAVIOURAL PRINCIPLES APPLIED TO PHYSICAL ACTIVITY:**  
**(8 Hours)**

1. Principles of Health Behaviour Change
2. Channels for Delivering Behavioral Programs
3. Factors Associated with Regular Physical Activity Participation
4. Behavioral Strategies to Enhance Physical Activity Participation
5. Health Counselling Skills

**UNIT-V EXERCISE PROGRAM ADMINISTRATION:****(8 Hours)**

1. The Exercise Program Professional and Related Staff.
2. Health and Fitness Program Development and Operation.
3. Clinical Exercise Program Development and Operations.
4. Policies and Procedures for Program Safety and Compliance
5. Legal Considerations

**RECOMMENDED BOOKS:**

1. Exercise Testing & Prescription by David C. Neiman, Mc. Graw Hill.
2. Exercise training and exercise prescription for special cases. Theoretical basis and clinical application by James A. Skinner, Lippincott Williams and Wilkins

**SUBJECT NAME: SEMINAR ON CLINICAL ISSUES**  
**SUBJECT CODE: PT 505**  
**(W.e.f. July 2015)**

**L T P**  
**0 3 0**

These will serve as a platform for students to integrate various components of patient management and debate contentious issues in the efficacy of Physiotherapy techniques used in musculoskeletal, neurological, cardiopulmonary, & Sports rehabilitation. Students will present on topics provided to them.

**CHECK LIST FOR EVALUATION OF SEMINAR PRESENTATIONS**

**Name of the students:**

**Date:**

**Topic:**

**Marks: 50**

<b>S. No.</b>	<b>Item for observation during presentation</b>	<b>Poor (0)</b>	<b>Below Average (1)</b>	<b>Average (2)</b>	<b>Good (3)</b>	<b>Very Good (4)</b>	<b>Excellent (5)</b>
1.	Introduction						
2.	Review of Literature						
3.	Recent Development						
4.	Clarity of presentation						
5.	Understanding of subject						
6.	Ability to answer the questions						
7.	Time management						
8.	Appropriate use of audio/ visual aids						
9.	Overall performance						
10.	Any other observations						
	<b>TOTAL</b>						

Comments:

**Name signature of the faculty/observer:**

**HOD**  
**Department of Physiotherapy**

**SUBJECT NAME: CLINICAL TRAINING**  
**SUBJECT CODE: PT 506**  
**(W.e.f. July 2015)**

**L T P**  
**0 0 14**

Students will engage in clinical practice in Physiotherapy departments in the musculoskeletal, neurology, cardiopulmonary, sports settings to enhance their clinical skills and apply contemporary knowledge gained during teaching sessions.

**MODEL CHECKLIST FOR EVALUATION OF CLINICAL TRAINING**

**Name of Student:**

**Month:**

**Name of Faculty/ Supervisor:**

**Date:**

S. No	Point to be Considered	Poor (0)	Below Average (1)	Average (2)	Good (3)	Very Good (4)	Excellent (5)
1.	Punctuality						
2.	Interaction with colleagues and supporting staff						
3.	Maintenance of case records						
4.	Presentation of case during rounds						
5.	Investigation work up						
6.	Bedside Manners						
7.	Rapport with patients						
8.	Treatment approach & technique						
9.	Discipline						
10.	Overall quality of clinical work						
	TOTAL SCORE						

Comments:

**Signature of Faculty/ Supervisor**

**HOD**  
**Department of Physiotherapy**



**STUDY & EVALUATION SCHEME  
OF  
MASTER OF PHYSIOTHERAPY**

**(MPT - I YEAR/ II SEMESTER)**

**[Applicable w.e.f. Academic Session 2020-21 till revised]**



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DASAULI, P.O. BAS-HA KURSI ROAD,  
LUCKNOW - 226026**

Website: [www.iul.ac.in](http://www.iul.ac.in)

**Approved by**

**Syllabus approved by Board of Study, Faculty Board, Academic Council,  
Executive Council of the Integral University, Lucknow**



**STUDY & EVALUATION SCHEME  
MASTER OF PHYSIOTHERAPY (MPT)  
(w.e.f. July 2020)**

**I Year**

**II Semester**

S. No.	Subject Code	Name of Subject	Periods			Credits	Evaluation Scheme				Subject Total
			L	T	P		Sessional		Exam		
							CT	TA	Total	ESE	
1.	PT 507	Medical & Surgical Condition (M,N,C,S,G,B)	3	1	0	4	40	20	60	40	100
2.	PT 508	Biomechanics and Kinesiology-I	3	1	0	4	40	20	60	40	100
3.	PT 509	Physiotherapy-I (M,N,C,S,G,B)	3	1	0	4	40	20	60	40	100
4.	PT 510	Biomechanics and Kinesiology-I Lab	0	0	2	1	50	50	100	--	100
5.	PT 511	Physiotherapy -I Lab (M,N,C,S,G,B)	0	0	2	1	30	30	60	40	100
6.	PT 512	Seminar on Clinical Issues	0	3	0	3	50	50	100	--	100
7.	PT 513	Clinical Training	0	0	14	7	50	50	100	--	100
		<b>Total</b>	<b>09</b>	<b>06</b>	<b>18</b>	<b>24</b>	<b>300</b>	<b>240</b>	<b>540</b>	<b>160</b>	<b>700</b>

**L:** Lecture

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**Sessional Total:** Class Test + Teacher Assessment

**Subject Total:** Sessional Total + End Semester Examination (ESE)

**Subjects Code:** M, N, C, S, G, B

**M=** Musculoskeletal Branch,

**N=** Neurology Branch,

**C=** Cardiopulmonary Branch

**S=** Sports Physiotherapy Branch

**G=** Obstetrics and Gynaecology Branch

**B=** Biomechanics Branch



**SUBJECT NAME: MEDICAL AND SURGICAL CONDITION IN MUSCULOSKELETAL**  
**SUBJECT CODE: PT 507M**  
**(W.e.f. July 2015)**

**L T P**  
**3 1 0**

**UNIT-I GENERAL PRINCIPLES: (06 hours)**

1. General principles of fractures and dislocations
2. Complications of fractures
3. Fracture treatment methods, introduction to orthopaedic implants
4. Soft tissue injuries

**UNIT-II REGIONAL TRAUMATOLOGY: (10 hours)**

1. Trauma of the Upper Limb
2. Trauma of the Lower Limb
3. Trauma of the Spine
4. Trauma of the Peripheral Nerves

**UNIT-III REGIONAL ORTHOPAEDICS: (10 hours)**

1. Disorders of the Upper Limb
2. Disorders of the Lower Limb
3. Disorders of the Spine

**UNIT-IV GENERAL ORTHOPAEDICS: (08 hours)**

1. Metabolic Disorders of the Bone and Joints
2. Congenital Disorders of the Bone and Joints
3. Inflammatory Disorders of the Bone and Joints
4. Degenerative diseases & Rheumatic diseases

**UNIT-V MISCELLANEOUS: (06 hours)**

1. Myopathies
2. Neurological Disorders
3. Bone and Joint Tumours
4. Amputation

**RECOMMENDED BOOKS:**

1. Current Diagnosis & treatment in Orthopaedics by Harry Skinner
2. Essential of Musculoskeletal Care by Walter Green
3. Orthopaedics Imaging A Practical Approach by Adam Greenspan
4. Post surgical Guidelines for Orthopaedics Clinicians by Jeme Cioppa Mosca and Carmen Young
5. Essential of Orthopaedics Surgery by Sam W. Wiesel and John N. Delahay
6. Campbell's Orthopaedics

**SUBJECT NAME: MEDICAL AND SURGICAL CONDITION IN  
NEUROLOGY  
SUBJECT CODE: PT 507N  
(W.e.f. July 2015)**

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**UNIT-I:**

- |  |                   |
|--|-------------------|
| 1. Approach to signs and symptoms:                                     | <b>(3 Hours)</b>  |
| a) The neurologic history and examination                              | b) Dizziness      |
| c) Paresthesias  | d) Pain, Headache |
| 2. Neurovascular disorders:  | <b>(5 Hours)</b>  |
| a) Stroke, Stroke in pregnancy (including pre-eclampsia and eclampsia) |                   |
| b) Arterovenous malformations  |                   |
| c) Spinal cord stroke  |                   |

**UNIT-II:**

- |  |                  |
|--|------------------|
| 1. Dementia and amnesic disorders:   | <b>(3 Hours)</b> |
| a) Alzheimer's disease, Overview of dementia (epidemiology, differential diagnosis, diagnostic testing), |                  |
| b) Multi-infarct dementias and Subcortical dementias,  |                  |
| c) Transient global amnesia and other amnesic disorders  |                  |
| 2. Movement disorders:   | <b>(5 Hours)</b> |
| a) Parkinson's disease, Parkinson plus syndromes   |                  |
| b) Dystonia, Choreoathetosis, Tremors and Hemiballismus  |                  |
| c) Ataxia  |                  |
| d) Multiple sclerosis and other demyelinating diseases (2 Hours)   |                  |

**UNIT-III:**

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|--|------------------|
| 1. Trauma:                             | <b>(5Hours)</b>  |
| a) Traumatic brain injury.             |                  |
| b) Subdural and epidural hematomas.    |                  |
| c) Traumatic spinal cord injury.       |                  |
| 2. Epilepsy:                           | <b>(3 Hours)</b> |
| a) Etiology, types and manifestations. |                  |
| b) Status epilepticus and treatment.   |                  |

**UNIT-IV:**

- |                             |                  |
|-----------------------------|------------------|
| 1. Infectious disorders:    | <b>(4 Hours)</b> |
| a) Meningitis               | b) Encephalitis  |
| b) Brain abscess            |                  |
| 2. Neuromuscular disorders: | <b>(4 Hours)</b> |
| a) Myasthenia gravis        |                  |
| b) Motor neuron diseases    |                  |

**UNIT-V**

- |  |                        |
|--|------------------------|
| 1. Peripheral neuropathies & Cranial neuropathies          | <b>(5 Hours)</b>       |
| a) Guillain-Barre syndrome & other acute neuropathies      |                        |
| b) Diabetic neuropathies                                   |                        |
| c) Mononeuritis Multiplex                                  |                        |
| d) Mononeuropathies and plexopathies (Brachial and Lumbar) |                        |
| e) Bell's palsy and other involvements of facial nerve     |                        |
| 2. Developmental disorders                                 | <b>(3 Hours)</b>       |
| a) Spina bifida  | b) Chiari malformation |
| c) Hydrocephalus   |                        |

**RECOMMENDED BOOKS:**

1. Saunder's Manual for Neurologic Practice. Randolf Evans, Elsevier
2. Diseases of the Nervous System. R Bannister
3. Brain's Clinical Neurology. R Bannister
4. Disorders of Muscle. Dubowitz.
5. Principles of Neurology; Adam & Victor

**SUBJECT NAME: MEDICAL AND SURGICAL CONDITION IN  
CARDIOPULMONARY  
SUBJECT CODE: PT 507C  
(w.e.f. July 2015)**

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**CARDIOLOGY:** Epidemiology, Pathomechanics, Clinical presentation, Relevant diagnostic tests (ECG, Echocardiography, Cardiac Catheterization, Radionuclide Scanning, Stress Testing, ABG, Labs, etc.) and Medical management of disorders of the cardiac system.

**UNIT-I** **(08 hours)**

1. Assessment of Symptoms of Heart Disease
2. Disorders of Cardiac Rate, Rhythm and Conduction
3. Cardiac Arrest
4. Cardiac Failure
5. Shock
6. Hypertension, Orthostatic Hypotension

**UNIT-II** **(08 hours)**

1. CPR
2. Pericarditis
3. Raynaud's Disease
4. Venous Thrombosis
5. Diseases of the Pericardium

**PULMONOLOGY:** Epidemiology, Pathomechanics, Clinical Presentation, Relevant Diagnostic Tests (PFT, Labs, etc) and Medical Management of Disorders of the Pulmonary System.

**UNIT-III** **(08 hours)**

1. Obstructive Pulmonary Diseases
2. Infections of the Respiratory System
3. Interstitial and Infiltrative Pulmonary Disorders
4. Pulmonary Disorders Due To Systemic Inflammatory Disease
5. Pulmonary Vascular Diseases

**UNIT-IV** **(08 hours)**

1. Diseases of the Pleura
2. Respiratory Failure
3. Supplemental Oxygen and Oxygen Delivery Devices in Chronic Respiratory Disease
4. Neuromuscular and Skeletal Disorders Leading To Global Alveolar Hypoventilation
5. Conventional Approaches to Managing N-M Ventilatory Failure

**CARDIOTHORACIC SURGERY:** Surgical management of the above conditions, indications, contraindications for surgery, precautions after surgery.

**UNIT-V** **(08 hours)**

1. CTVS Procedures: Outline and Definition of Procedures.
2. Complications of Cardiac Surgery
3. Hemodynamic Monitoring In CTVS Patients
4. Interpretation of Arterial Blood Gases
5. Oxygen Therapy
6. Maintaining and Removing Artificial Airways
7. Post-Op Mechanical Ventilation
8. Non Invasive Positive Pressure Ventilation

**RECOMMENDED BOOKS:**

1. General Surgery. Bailey and Love
2. Hertz
3. Principles and Practice of Medicine. Davidson
4. Harrison's Principles of Internal Medicine. Braunwald, Fauci, Kasper
5. Cardiology. Julian

**SUBJECT NAME: MEDICAL AND SURGICAL CONDITION IN  
SPORTS**

**SUBJECT CODE: PT 507S  
(W.e.f. July 2015)**

**L T P  
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(8 Hours)**

**UNIT-I TRAUMATIC CONDITION:**

1. Standard Nomenclature of Athletic Injuries
2. Causes and mechanism of common, acute & overuse injuries
3. Etiology, evaluation and management of the head & neck injuries & unconscious athlete.
4. Etiology, evaluation and management of the Upper Extremity injuries
5. Etiology, evaluation and management of the Lower Extremity injuries

**UNIT-II NON TRAUMATIC CONDITIONS:**

1. Female athletes
2. Adolescent athlete
3. Common skin conditions
4. AIDS in athletes
5. Rheumatic disorders
6. Geriatric disorders

**UNIT-III NON TRAUMATIC MEDICAL CONDITIONS:**

1. Disabled athletes
2. Diabetic athlete
3. Hypertensive athlete
4. Common pulmonary condition
5. Common cardiac condition
6. Obesity & athlete

**UNIT-IV SURGICAL MANAGEMENT OF SPORTS RELATED INJURIES: (8 Hours)**

Surgical management of the above conditions, indications, contra-indications for surgery, precautions after surgery.

**UNIT-V SPORTS PSYCHOLOGY:**

1. Definition of terms.
2. Sports psychology: Role of sports psychology in sport performance.
3. Dynamics of Human Behaviors
  - (i). Instincts
  - (ii). Attention, interest & motivation
4. Personality of sports person.
5. Learning
  - (i) Nature & meaning of learning & maturation (ii) Characteristics of learning
  - (iii) Laws of learning Maturation (iv) Transfer of training
6. Group behaviors & leadership
  - (i). Nature of group behaviors
  - (ii). Types, quality, training & functioning of leadership

**RECOMMENDED BOOKS:**

1. Starkey, C., & Ryan, J. L. Evaluation of Orthopedic and Athletic Injuries; F. A. Davis.
2. Arnheim, D. D, & Prentice, W. E. Principles of Athletic Training, 10th Ed. Brown & Benchmark.
3. Bonsall, A.P. Anatomy Flash Cards: Musculature, 2nd. Ed. Mosby Yearbook.
4. Hoppenfeld, S. Physical examination of the Spine and Extremities. Appleton-Century-Crofts.
5. Konin, J.G., Wiksten, D.L., & Isear, J.A. Special tests for Orthopedic Examination.
6. Slack.Gylys, B.A., and Wedding, M.E. Medical Terminology- a Systems Approach
7. Kapit, W. & Elson, L. The Anatomy Coloring Book, HarperCollins.

**SUBJECT NAME: MEDICAL & SURGICAL CONDITION IN  
OBSTETRIC AND GYNAECOLOGY  
SUBJECT CODE: PT 507G  
(W.e.f. July 2019)**

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**UNIT-I (FAMILY PLANNING AND METHODS) (8 Hours)**

1. Needs of Family Planning
2. Government scheme of Family Planning
3. Spacing Methods (Oral contraceptive, Condoms, IUCD)
4. Permanent Methods (Male sterilisation, Female sterilisation)

**UNIT-II (GENERAL GYNAECOLOGICAL PROBLEMS) (8 Hours)**

1. Ovarian Cyst, Poly cystic ovarian syndrome, Infertility
2. Endometriosis, Fibroid, Pelvic pain
3. Pelvic inflammatory disease, UTI
4. Gynecological trauma and sexually transmitted disease

**UNIT-III (PELVIC FLOOR DISORDERS) (8Hours)**

1. Pelvic organ prolapsed
2. Urinary incontinence, Fecal incontinence
3. Recurrent UTI, Levator ani Syndrome
4. Coccygodynia, Pudendal neuralgia

**UNIT-IV (PREGNANCY AND LABOUR) (8 Hours)**

1. Antenatal period,
2. Complication during pregnancy
3. Post natal period
4. Labour, Diagnosis of labour
5. Complication of labour, Management of labour

**UNIT-V (GYNAECOLOGICAL SURGERY) (8 Hours)**

1. C section, Laproscopic and LASER surgery in Gynecological condition
2. Hystrectomy, Oophrectomy, IVF
3. Gynecological repair surgery
4. MTP and DNC

**RECOMMENDED BOOKS**

1. Physiotherapy in Obstetrics and Gynaecology ; Margaret Polden Jill Mantle
2. Jay Pee.
3. Text book of Obstetrics – D.C. Dutta
1. Obstetrics and Gynaecology – Lawrence Impey
2. Novak's Gynaecology – Johnathan.S.Berek
3. Obstetrics by ten teachers – Stuart Campbell

**SUBJECT NAME: MECHANICAL AND SURGICAL CONDITION IN  
BIOMECHANICS  
SUBJECT CODE: PT 507B  
(w.e.f. July 2019)**

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**UNIT I- (MECHANICAL MSK DYSFUNCTION AND DERANGEMENT) (8Hours)**

1. Shoulder and Elbow
2. Wrist and Hand
3. Hip and Knee
4. Foot and ankle

**UNIT II- (MECHANICAL MSK DYSFUNCTION AND DERANGEMENT) (8 Hours)**

1. Atlanto- occipital joint
2. TMJ
3. Cervical and Thoracic spine
4. Lumbar and Pelvic girdle

**UNIT III- (NEURAL DYSFUNCTION) (8 Hours)**

1. Types of dysfunction (Mechanical, Neural)
2. Patho anatomical dysfunction
3. Mechanosensitivity
4. Entrapment Neuropathy

**UNIT IV- (POSTURAL DYSFUNCTION) (8 Hours)**

1. Common spinal Postural deviation
2. Basics of Malalignment syndrome
3. Common Malalignment syndrome Upper limb
4. Common Malalignment syndrome Lower limb

**UNIT V- (ORTHOPEDIC SURGERY) (8 Hours)**

1. Corrective surgeries
2. Arthroscopic surgeries
3. Arthroplasty
4. Stabilization surgeries

**RECOMMENDED BOOKS**

1. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen Publishers - Williams and Wilkins.
2. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
3. Scientific Basis of Human Movement - Gowitzke, Williams & Wilkins, Baltimore, 1988, 3rd Edition.
4. Mobilization of nervous system-David S. Butler, Churchill Livingstone
5. Orthopaedic Biomechanics-Donald L.Bartel, Dwight T.Davy, Pearson



# **SUBJECT NAME: BIOMECHANICS AND KINESIOLOGY-I**

**SUBJECT CODE: PT-508**

**(w.e.f. July 2015)**

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Students will be able to identify and apply principles of biomechanics while setting up individualized treatment protocols. Following are the topics to be included but not limited to:

## **UNIT-I FUNDAMENTAL MECHANICS: (8 Hours)**

Forces, Moments, Newton's Laws, Force Systems, Composition and Resolution of Forces, Static Equilibrium, Dynamic Equilibrium, Levers & its application, Pulley Systems, Density & Mass, Segmental Dimensions, Stress and Strain, Modulus of Rigidity and Modulus of Elasticity, Poisson's Effect, Strain Energy, Static and Cyclic Load Behaviours, Load, Load Sharing and Load Transfer.

**Mechanical Energy, Work & Power:** Definitions, Positive and Negative Work of Muscles, Muscle Mechanical Power, Causes of Inefficient Movement, Co- Contractions, Isometric Contraction against Gravity, Jerky Movement, Energy generation at one Joint and Absorption at another, Energy Flow, Energy Storage.

## **UNIT-II KINEMATICS & KINETICS: (8 Hours)**

### **KINEMATICS:**

Types of Motion, Location of Motion, Magnitude of Motion, Direction of Motion, Angular Motion and Its Various Parameters, Linear Motion and Its Various Parameters, Projectile Motions.

### **KINETICS:**

Definition of Forces, Force Vectors, Naming of Force, Force of Gravity & COG, Stability, Reaction Forces, Equilibrium, Linear Forces System, Friction and Its Various Parameters, Parallel Force Systems, Concurrent Force Systems, Work Powers & Energy, Moment Arms of Force, Force Components, Equilibrium of Force

## **UNIT-III JOINT MECHANICS: (8 Hours)**

**Joint Mechanics:** Joints and its classification, Joint Design, Joint Categories, Joint Functions, Arthrokinematics, Osteokinematics, Kinematic Chain, Joint Forces, Equilibrium & Distribution of These Forces, Degenerative Changes in Weight Bearing Joints & Compensatory Actions, Joint Stability & Its Mechanisms, Clinical Applications.

## **UNIT-IV MUSCLES, LIGAMENT & TENDON MECHANICS: (8 Hours)**

Structure & Composition of Muscle, Fiber Length & Cross Section Area, Mechanical Properties, EMG Changes during Fatigue & Contraction, Changes in Mechanical Properties because of Ageing and Exercised & Immobilization, Clinical Applications of mechanics. Structure and Composition, Mechanical Properties, Cross Sectional Area Measurements, Muscle Tendon Properties, Temperature Sensitivity, Changes in Mechanical Properties because of Aging, Exercise and Immobilization, Mechanoreceptors, & Clinical Applications.

## **UNIT-V MEASUREMENT INSTRUMENTS: (8 Hours)**

Goniometer, Accelerometer, Photo Optical Devices, Pressure Transducers & Force Plates, Gait Analyzer, Isokinetic Device, EMG, Electrophysiology of Muscle Contraction, Recording Processing, Relationship between EMG and Biomechanical Variables.

## **RECOMMENDED BOOKS:**

1. Biomechanics & Clinical Kinesiology-Cynthia Norikin
2. Basic Biomechanics. Nordin.
3. Basic Biomechanics & clinical Kinesiology. Otis
4. Biomechanics of Human Movement. D Winter
5. Kinesiology: Application to Pathological Motion. GL Soderberg
6. Brunnstrom's Clinical Kinesiology. LK Smith, EL Weiss, LD Lehmkuhl
7. Kinesiology: Scientific Basis of Human Motion. K Luttgens, N Hamilton

**SUBJECT NAME: PHYSIOTHERAPY- I**  
**(MUSCULOSKELETAL BASIC CONCEPTS AND TECHNIQUES)**  
**SUBJECT CODE: PT 509M**  
**(w.e.f. July 2015)**

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**UNIT-I BASIC CONCEPTS:**

**(06 hours)**

1. Properties of Dense connective tissues and wound healing.
2. Arthrology
3. Recent advances in PT management of musculoskeletal disorders.
4. Introduction to evidence based practice musculoskeletal rehabilitation.

**UNIT-II ASSESSMENT & DIAGNOSTIC PROCEDURES:**

**(06 hours)**

1. Pain, Assessment theories and clinical application.
2. Disability evaluation.
3. Introduction to radiology and diagnostic imaging including X-ray, MRI, CT scan Colour, Doppler etc and its role in musculoskeletal rehabilitation.
4. Fundamentals of Musculoskeletal examination-The topic will cover basic concepts of Physical examination of the patient with musculoskeletal dysfunction. Fundamental examination skills and knowledge will be covered, including issues related to screening, review of systems, history, physical examination and clinical decision-making

**UNIT-III INTRODUCTION TO MANUAL THERAPY**

**(08 hours)**

1. Introduction to various manual therapy techniques.
2. Soft tissue mobilization technique.
3. Myofascial release technique.
4. Positional Release technique.

**UNIT-IV MANUAL THERAPY CONCEPTS AND TECHNIQUES I:**

**(10 hours)**

1. Maitland concepts and techniques
2. Keltonborn's concepts and techniques
3. Mulligan concepts and techniques
4. McKenzie concepts and techniques.

**UNIT-V MANUAL THERAPY CONCEPTS AND TECHNIQUES II:**

**(10 hours)**

1. Muscle Energy techniques.
2. Buttlar concepts and techniques
3. Cyriax concepts and techniques
4. Stretching techniques

**RECOMMENDED BOOKS:**

1. David J Magee Orthopedic physical assessment
2. S Brent brotzman. Kevin e wilk clinical orthopaedic rehabilitation
3. Kessler, management of common musculoskeletal disorders.
4. Positional Release technique- Leon Chaitou
5. Neurodynamics mobilization technique- Buttlar.
6. Muscle Energy techniques- Leon Chaitou
7. Postural Correction technique- McKenzie

**SUBJECT NAME: PHYSIOTHERAPY- I**  
**(PRINCIPLES AND PRACTICE IN NEUROLOGIC PHYSIOTHERAPY)**  
**SUBJECT CODE: PT 509N**  
**(w.e.f. July 2015)**

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**UNIT-I THEORETICAL FOUNDATIONS FOR CLINICAL PRACTICE: (08 hours)**

1. Foundations for Clinical Practice.
2. Movement Development across the Life Span.
3. The Limbic System: Influence over Motor Control and Learning.
4. Psycho-social aspects of Adaptation and Adjustment during various phases of neurological Disability.
5. Interventions for Neurological Disabilities.
6. Documentation of Neurological condition.

**UNIT-II THEORETICAL FRAMEWORK: (08 hours)**

1. Motor Control: Issues and Theories
2. Motor Learning and Recovery of Function
3. Physiology of Motor Control
4. Neuroplasticity: Physiological Basis of Motor Learning and Recovery of function.
5. Constraints on Motor Control: An Overview of Neurologic Impairments
6. A Conceptual Framework for Clinical Practice

**UNIT-III NEUROLOGICAL DISORDERS AND APPLICATIONS ISSUES: (06 hours)**

1. Disorders of Vision and Visual-Perceptual Dysfunction.
2. Electrical Stimulation and EMG.
3. Pain Management.
4. Pelvic Floor Dysfunction.
5. Differential Diagnosis of neurological condition.

**UNIT-IV SPECIAL SETTINGS AND SPECIAL CONSIDERATIONS: (08 hours)**

1. Neurological and neurosurgical ICUs
2. Early Intervention Services
3. Assistive Technology
4. The Burn Unit
5. The Special Care Nursery

**UNIT-V MANAGEMENT OF CLINICAL PROBLEMS: (10 hours)**

1. Beyond the CNS: Neurovascular Entrapment Syndromes.
2. Neuromuscular Diseases
3. Head Injury
4. Spinal Cord Injury
5. Traumatic Spinal Cord Injury.

**RECOMMENDED BOOKS:**

1. Neurological Rehabilitation. D. A. Umphred
2. Neurological Physiotherapy: by Edward Susan
3. Brunnstrom's Movement Therapy in Hemiplegia. A Neurophysiological Approach. K Sawner
4. Adult Hemiplegia: Evaluation and Treatment. B Bobath
5. Orthopaedic Physical Assessment. Magee
6. Principles of Neuroscience. E Kandel, J Schwartz, T Jessell

**SUBJECT NAME: PHYSIOTHERAPY-I**  
**(PRINCIPLES AND PRACTICE IN CARDIOPULMONARY PHYSIOTHERAPY)**  
**SUBJECT CODE: PT 509C**  
**(w.e.f. July 2015)**

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**UNIT-I GENERAL PRINCIPLES: (06 hours)**

1. P.T. Assessment
2. Mobilization and Exercises (Strengthening, Conditioning and Endurance)
3. Applying and Evaluating Bronchial Hygiene Therapy
4. Techniques for Facilitating Ventilatory Pattern
5. Respiratory Muscle Training

**UNIT-II ASSESSMENT & TECHNIQUES: (08 hours)**

1. Ventilator
2. Humidification and Aerosol Therapy
3. Physiotherapy in the Intensive Care Unit
4. Respiratory Therapy Equipment and Adjuncts to Cardiopulmonary Therapy
5. Body Positioning
6. Airway Clearance Techniques
  - a) Postural Drainage
  - b) Forced Expiratory Techniques
  - c) Breathing Exercises, Percussion and Vibration

**UNIT-III PT MANAGEMENT IN SPECIFIC CONDITIONS: (08 hours)**

1. Congenital Heart Disease
2. Cardiomyopathy
3. Peripheral Vascular Disease
4. Diseases of the Pleura
5. Obstructive Pulmonary Diseases, Restrictive Pulmonary Diseases
6. Interstitial and Infiltrative Pulmonary Disorders
7. Pulmonary Disorders Due To Systemic Inflammatory Disease, Pulmonary Vascular Diseases.

**UNIT-IV PT MANAGEMENT IN SPECIFIC CONDITIONS: (06 hours)**

1. Respiratory Failure.
2. Supplemental Oxygen and Oxygen Delivery Devices in Chronic Respiratory Disease.
3. Pathophysiology of Paralytic-Restrictive Pulmonary Syndromes.
4. Pre and Post Operative Blood Gas Exchange.
5. Hemodynamic Performance of CTVS Patients.
6. Heart Transplant.

**UNIT-V EXERCISE TESTING: PT Management in Specific Conditions (12 hours)**

- 1. Pre-test clinical evaluation**
  - a) Medical history, physical examination, and laboratory tests, Alternative stress tests.
  - b) Blood pressure
  - c) Cholesterol and lipoproteins, Blood profile analyses
  - d) Pulmonary function test.
  - e) Contraindication of exercise testing

## **2. Physical fitness testing and interpretation**

- a) Purpose of fitness testing
- b) Basic principles and guidelines
- c) Body composition Analysis

## **3. Cardiopulmonary fitness**

- a) Concept of maximal oxygen uptake    b) Maximal verses sub-maximal exercise testing
- c) Modes of testing, Test termination criteria    d) Cardiopulmonary test sequence and measures

### **RECOMMENDED BOOKS:**

1. Principles and Practice of Cardiopulmonary Physiotherapy. D Frownfelter, E Dean
2. Respiratory Care. Shapiro
3. Clinical Practice in Respiratory Care. J Fink, Ge Hunt
4. Physiotherapy for Respiratory and Cardiac Problems. J Pryor, A Prasad
5. Cardiopulmonary Physical Therapy. S Irwin, Sadowsky
6. Chest Physiotherapy in the ICU. Mackenzie

**SUBJECT NAME: PHYSIOTHERAPY-I**  
**(PRINCIPLES AND PRACTICE IN SPORTS PHYSIOTHERAPY)**  
**SUBJECT CODE: PT 509S**  
**(w.e.f. July 2015)**

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**UNIT-I EVALUATION & EXAMINATION:**

**(06 hours)**

Evaluation Process in Rehabilitation

1. Importance of evaluation & assessment.
2. Methods of evaluation- interview, clinical examination, field test, reliability & validity of each test & investigative procedure
3. Evaluation of physical fitness
4. Musculoskeletal screening
5. Pre-participation Exam
6. On-Field and Off-Field Evaluation Process

**UNIT-II MANAGEMENT OF SPORTS CONDITION:**

**(12 hours)**

Rehabilitation of Shoulder, Elbow, Wrist, Fingers, Hip, Groin, Thigh, Knee, Lower Leg, Ankle, chest, abdomen and spine-

1. Functional Anatomy and Biomechanics
2. Rehabilitation Techniques
3. Rehabilitation Techniques for Specific Injuries

**UNIT-III MANUAL THERAPY TECHNIQUES IN REHABILITATION:**

**(08 hours)**

1. Joint Mobilizations
2. Sports Massage
4. Proprioceptive Neuromuscular Facilitation Techniques
5. Rationale for Use of Mobilization, Traction, and PNF Techniques
6. Manipulation and soft tissue release

**UNIT-IV THERAPEUTIC EXERCISE & TECHNIQUES:**

**(08 hours)**

1. Restoring Range-of-Motion and Improving Flexibility
  - a. Importance of Flexibility and ROM
  - b. Anatomical Factors that Limit Flexibility
  - c. Neurophysiologic Basis of Stretching
2. Strength and Isokinetic
  - a. Types of Skeletal Muscle Contraction and Physiology of Strength development.
  - b. Factors that Determine Levels of Muscular Strength, Endurance, and Power.
  - c. Resistance Training Differences between Male &Female and between Child & Adult.
3. Aquatic, Cardiorespiratory Endurance, and Functional Progression
  - a. Training Effects on the Cardiorespiratory System
  - b. Physical Properties and Resistive Forces in Aquatic Therapy
  - c. Role and Benefits of Using Functional Progressions and Exercises
  - d. Advantages and Disadvantages of Aquatic, Cardiorespiratory, endurance, and Functional Progression

**UNIT-V PLYOMETRIC EXERCISE AND KINETIC-CHAIN EXERCISES:**

**(06 hours)**

Plyometric Exercise and Open-Kinetic-Chain versus Closed-Kinetic-Chain, Exercises-

1. Biomechanical and Physiological Principles of Plyometric Training
2. Plyometric Program Guidelines, Precautions, Development, Design, and Implementation
3. Concept of the Kinetic Chain
4. Biomechanics of Open- versus Closed-Kinetic Chain Activities for both the Lower and Upper Extremity.

**RECOMMENDED BOOKS:**

1. Prentice, William E., Rehabilitation Techniques in Sports Medicine, St. Louis: McGraw Hill Publishing Company.
2. Gray, Gary W., Lower Extremity Functional Profile, 1st Edition, Adrian, MI: Wynn Marketing.
3. Prentice, W. "Therapeutic Modalities for Allied Health Professionals" McGraw Hill.
4. Norkin & White: Measurement of Joint Motion - A Guide to Goniometry - F.A.Davis.
5. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders.

**SUBJECT NAME: PHYSIOTHERAPY-I  
(GENERAL OBSTETRIC AND GYNACOLOGICAL ASSESSMENT)  
SUBJECT CODE: PT 509G  
(w.e.f. July 2019)**

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**UNIT-I (GENERAL ASSESSMENT IN OBSTETRICS) (8 Hours)**

1. Pre conceptual assessment and investigation, Antenatal assessment
2. Pregnancy test and investigation
3. Assessment during labour
4. Post natal assessment

**UNIT-I I (SPECIFIC ASSESSMENT IN OBSTETRICS) (8 Hours)**

1. Assessment of common musculoskeletal impairment in Pregnancy
2. Assessment of soft tissue and muscular changes ( Diastasis recti, Ligaments etc)
3. Assessment of pelvic floor muscles
4. Assessment of bowel and bladder impairment

**UNIT-III (GENERAL ASSESSMENT IN GYNAECOLOGY) (8 Hours)**

1. Assessment of different physical impairment in gynecological condition
2. Assessment of edema and pain
3. Assessment of Pelvic girdle
4. Physiotherapy outcome measure tools in gynecological condition

**UNIT-IV (SPECIFIC ASSESSMENT IN GYNAECOLOGY) (8 Hours)**

1. Pre and post assessment of different gynecological surgical condition
2. Breast examination
3. Assessment of Uterine prolapsed
4. Assessment of spinal curvature

**UNIT-V (MISCELLANEOUS ASSESSMENT) (8 Hours)**

1. Height, Weight, Hip and waist, Neck measurement
2. Cardio respiratory fitness and its assessment
3. Pre and post natal Gait and posture assessment
4. Pre and post natal neuro vascular assessment

**RECOMMENDED BOOKS**

1. Role Of Physiotherapist In Obstetric And Gynecological Conditions : Changela Purvi K
2. Physiotherapy in Obstetrics & Gynaecology - Polden & Mantle, Jaypee Brothers.
3. Women's Health: A textbook for Physiotherapist by Ruth Sapsford W B Saunders.
4. Obstetric and Gynecologic care in physical therapy 2nd edition by Rebecca Stephenson Slack incorporated
5. Obstetrics & Gynaecologic Physical Therapy - Wilder Elnine, Churchill, Livingstone, New York, 1988.

**SUBJECT NAME: PHYSIOTHERAPY-I  
(BIOMECHANICAL GENERAL BIOMECHANICAL ASSESSMENT)  
SUBJECT CODE: PT 509B  
(W.e.f. July 2019)**

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**UNIT I- (BIOMECHANICAL ASSESSMENT MSK SYSTEM) (8 Hours)**

1. Kinematic assessment.
2. Muscle flexibility and Strength.
3. Muscle Endurance and muscle power.
4. Fatigue.

**UNIT II- (POSTURE AND KINETIC CHAIN) (8 Hours)**

1. Biomechanical assessment of kinetic chain
2. Biomechanical assessment of OKC and CKC in lower extremity activity
3. Biomechanical assessment of OKC and CKC in upper extremity activity

**UNIT III- (POSTURE AND GAIT) (8 Hours)**

1. Biomechanical assessment of static posture
2. Biomechanical assessment of dynamic posture
3. Biomechanical assessment of normal gait
4. Biomechanical assessment of abnormal gait

**UNIT IV- (FUNCTIONAL ANALYSIS) (8 Hours)**

1. Analysis of sit to stand and Walking
2. Analysis of running and sprinting
3. Analysis of squatting
4. Analysis of arm swing

**UNIT V- (TOOLS USED IN BIOMECHANICAL ANALYSIS) (8 Hours)**

1. Camera and Software (Image and video digitizing software , Mobile apps)
2. Dynemometer, Inclinator, Clinometer
3. Compass, Gyroscope, GPS
4. Sensors used for biomechanical Analysis

**RECOMMENDED BOOKS**

1. Brunnstrom's Clinical Kinesiology - Laura K. Myth et al., Publishers - F.A. Davis.
2. Clinical Biomechanics of Spine - White A.A. and Panjabi - J.B. Lippincot, Philadelphia.
3. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen Publishers - Williams and Wilkins.
4. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler
5. Scientific Basis of Human Movement - Gowitzke, Williams & Wilkins, Baltimore, 1988, 3rd Edition



**SUBJECT NAME: BIOMECHANICS AND KINESIOLOGY-I LAB**

**SUBJECT CODE: PT 510**

**(W.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be able to identify and apply principles of biomechanics while setting up individualized treatment protocols. Following are the topics to be included but not limited to.

This involves application of topics in demonstrations, field visits and case presentations.

**SUBJECT NAME: PHYSIOTHERAPY-I LAB**  
**(MUSCULOSKELETAL BASIC CONCEPTS AND TECHNIQUES)**  
**SUBJECT CODE: PT 511M**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be instructed via demonstration, hands on techniques, field visits and case conference on specific techniques used in the management of patients with musculoskeletal disorders. Students will draw on their experiences at the experiences at the clinical postings to formulate a treatment plan for case presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-I LAB**  
**(PRINCIPLES AND PRACTICE IN NEUROLOGIC PHYSIOTHERAPY)**  
**SUBJECT CODE: PT 511N**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be instructed via demonstrations, hands-on techniques, field visits and case conferences on specific techniques used in management of patients with neurological disorders. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-I LAB**  
**(PRINCIPLES AND PRACTICE IN CARDIOPULMONARY PHYSIOTHERAPY)**  
**SUBJECT CODE: PT 511C**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be instructed via demonstrations, hands on techniques, field visits and case conferences on specific techniques used in management of patients with cardiopulmonary disorders. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-I LAB**  
**(PRINCIPLES AND PRACTICE IN SPORTS PHYSIOTHERAPY)**  
**SUBJECT CODE: PT 511S**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be instructed via demonstrations, hands-on techniques, field visits and case conferences on specific techniques used in management of patients with sports injuries. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-I LAB  
(OBSTETRICS AND GYNAECOLOGICAL ASSESSMENT)  
SUBJECT CODE: PT 511G  
(w.e.f. July 2019)**

**L T P  
0 0 2**

Students will be instructed via demonstration, hands on assessment, hospital visits and case presentation on specific techniques used in the assessment of patients with obstetrics and gynaecological disorders. Students will draw on their experiences at the clinical postings to formulate an assessment plan for case presented at the conference.

**SUBJECT NAME: PHYSIOTHERAPY-I LAB  
(GENERAL BIOMECHANICAL ASSESSMENT)  
SUBJECT CODE: PT 511B  
(w.e.f. July 2019)**

**L T P  
0 0 2**

Students will be instructed via demonstration, hands on specific assessment, field, hospital visits and case presentation on general biomechanical assessment used in the assessment of patients with biomechanical dysfunction. Students will draw on their experiences at the clinical postings to formulate a general biomechanical assessment plan for case presented at conference

**SUBJECT NAME: SEMINAR ON CLINICAL ISSUES**

**SUBJECT CODE: PT 512**

**(w.e.f. July 2015)**

**L T P  
0 3 0**

These will serve as a platform for students to integrate various components of patient management and debate contentious issues in the efficacy of Physiotherapy techniques used in musculoskeletal, neurological, cardiopulmonary, & Sports rehabilitation. Students will present on topics provided to them.

**CHECK LIST FOR EVALUATION OF SEMINAR PRESENTATIONS**

**Name of the students:**

**Date:**

**Topic:**

**Marks: 50**

<b>S.No</b>	<b>Item for observation during presentation</b>	<b>Poor (0)</b>	<b>Below Average (1)</b>	<b>Average (2)</b>	<b>Good (3)</b>	<b>Very Good (4)</b>	<b>Excellent (5)</b>
1.	Introduction						
2.	Review of Literature						
3.	Recent Development						
4.	Clarity of presentation						
5.	Understanding of subject						
6.	Ability to answer the questions						
7.	Time management						
8.	Appropriate use of audio/ visual aids						
9.	Overall performance						
10.	Any other observations						
	<b>TOTAL</b>						

Comments:

**Name signature of the faculty/observer:**

**HOD**

**Department of Physiotherapy**



**SUBJECT NAME: CLINICAL TRAINING**

**SUBJECT CODE: PT 513**

**(w.e.f. July 2015)**

**L T P  
0 0 14**

Students will engage in clinical practice in Physiotherapy departments in the musculoskeletal, neurology, cardiopulmonary, sports settings to enhance their clinical skills and apply contemporary knowledge gained during teaching sessions.

**MODEL CHECKLIST FOR EVALUATION OF CLINICAL TRAINING**

**Name of Student:**

**Month:**

**Name of Faculty/ Supervisor:**

**Date:**

<b>S. No</b>	<b>Point to be Considered</b>	<b>Poor (0)</b>	<b>Below Average (1)</b>	<b>Average (2)</b>	<b>Good (3)</b>	<b>Very Good (4)</b>	<b>Excellent (5)</b>
1.	Punctuality						
2.	Interaction with colleagues and supporting staff						
3.	Maintenance of case records						
4.	Presentation of case during rounds						
5.	Investigation work up						
6.	Bedside Manners						
7.	Rapport with patients						
8.	Treatment approach & technique						
9.	Discipline						
10.	Overall quality of clinical work						
	<b>TOTAL SCORE</b>						

Comments:

**Signature of Faculty/ Supervisor**

**HOD  
Department of Physiotherapy**

**STUDY & EVALUATION SCHEME  
OF  
MASTER OF PHYSIOTHERAPY**

**(MPT -II YEAR/ III SEMESTER)**

**[Applicable w.e.f. Academic Session 2020-21 till revised]**



**INTEGRAL UNIVERSITY, LUCKNOW  
DASALI, P.O. BAS-HA KURSI ROAD,  
LUCKNOW - 226026**

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**Approved by**

**Syllabus approved by Board of Study, Faculty Board, Academic Council,  
Executive Council of the Integral University, Lucknow**



**STUDY & EVALUATION SCHEME**  
**MASTER OF PHYSIOTHERAPY (MPT)**  
**(w.e.f. July 2020)**

II Year

III Semester

S. No.	Subject Code	Name of Subject	Periods			Credits	Evaluation Scheme				Subject Total
			L	T	P		Sessional			Exam	
							CT	TA	Total	ESE	
1.	PT 601	Management, Education & Professional Ethics	3	1	0	4	40	20	60	40	100
2.	PT 602	Biomechanics and Kinesiology-II	3	1	0	4	40	20	60	40	100
3.	PT 603	Physiotherapy-II (M,N,C,S,G,B)	3	1	0	4	40	20	60	40	100
4.	PT 604	Biomechanics and Kinesiology-II Lab	0	0	4	2	40	20	60	40	100
5.	PT 605	Physiotherapy-III Lab (M,N,C,S,G,B)	0	0	2	1	40	20	60	40	100
6.	PT 606	Seminar on Clinical Issues	0	3	0	3	50	50	100	--	100
7.	PT 607	Clinical Training	0	0	14	7	50	50	100	--	100
<b>Total</b>			<b>09</b>	<b>06</b>	<b>20</b>	<b>25</b>	<b>300</b>	<b>200</b>	<b>500</b>	<b>200</b>	<b>700</b>

L: Lecture

T: Tutorials

P: Practical

CT: Class Test

TA: Teacher Assessment

ESE: End Semester Examination

**Sessional Total:** Class Test + Teacher Assessment

**Subject Total:** Sessional Total + End Semester Examination (ESE)

**Subjects Code:** M, N, C, S, G, B

**M=** Musculoskeletal Branch,

**N=** Neurology Branch,

**C=** Cardiopulmonary Branch

**S=** Sports Physiotherapy Branch

**G=** Obstetrics and Gynaecology Branch

**B=** Biomechanics Branch



**SUBJECT NAME: MANAGEMENT, EDUCATION & PROFESSIONAL  
ETHICS**

**SUBJECT CODE: PT 601**

**(w.e.f. July 2015)**

**L T P  
3 1 0**

**COURSE OBJECTIVES:**

1. This course deals with basic issues of management to assist the practitioner in efficiently addressing issues related to the organization and administration of a Physiotherapy Department.
2. The education module of this course will provide students information on improving their teaching skills in the classroom and clinical setting. Educational theory is presented. Students develop and present educational units to audiences that may include Bachelor of Physiotherapy students or peers.
3. It provides the student with an introduction to ethical issues facing physiotherapists. Specific topics include documentation. A variety of current issues affecting the physiotherapy profession are addressed in this course. The science of management is presented as it relates to the essential functions of the business of physiotherapy. Following are the topics to be included but not limited to:

**UNIT-I: MANAGEMENT:**

**(8 Hours)**

1. Management - Functions of Management, Evolution of Management Through Scientific Management Theory, Classical Theory - Systems Approach - Contingency Approach.
2. Management Process - Planning, Organization, Direction, Controlling Decision Making
3. Introduction to Personal Management - Staffing Recruitment Selection, Performance Appraisal, Collective Bargaining, Discipline, Job Satisfaction
4. Quantitative Methods of Management - Relevance of Statistical and / or Techniques in Management.
5. Marketing - Market Segmentation, Marketing Research Production Planning Pricing, Channels of Distribution, Promotion, Consumer Behavior, and Licenses
6. Total Quality Management- Basis of Quality Management - Acid for Quality Control Quality Assurance Program in Hospitals, Medical Audit, and International Quality Systems.

**UNIT-II ADMINISTRATION:**

**(8 Hours)**

1. Hospital as an Organization - Functions and types of Hospitals selected clinical supportive and ancillary services of a Hospital, Emergency Department, Nursing, Physical Medicine & Rehabilitation, Clinical Laboratory, Pharmacy and Dietary Department. Roles of Physiotherapist, Physiotherapy Director, Physiotherapy Supervisor, Physiotherapy Assistant, Physiotherapy Aide, Occupational Therapist, Home Health Aide, Volunteer. Direct care and Referral Relationships and Confidentiality.

**UNIT- III EDUCATION:**

**(8 Hours)**

1. Philosophy of Education and Emerging issues in Education.
2. Formal, Informal and Non-Formal Education, Agencies of Education, Current issues and trends in Higher Education (Issue of Quality in Higher Education, Autonomy and Accountability, Privatizations, Professional Development of Teachers, Education of

Persons with Disabilities), Need for Educational Philosophy (Some Major Philosophies, Idealism Naturalism, Pragmatism and their Implications for Education).

3. Concept of Teaching and Learning: Meaning and Scope of Educational Psychology, meaning and relationship between teaching and learning.
4. Curriculum: Meaning and Concept, Basis of Curriculum Formulation Development, Framing Objectives for Curriculum, Process of Curriculum Development and Factors Affecting Curriculum Development, Evaluation of Curriculum.

#### **UNIT-IV**

**(8 Hours)**

1. Guidance and Counseling: Meaning and Concepts of Guidance and Counseling, Principles, Guidance and Counseling Services for Students and Faculty Members, Faculty Development and Development of Personnel for P.T. Services.
2. Method and Techniques of Teaching: Lecture, Demonstration, Discussion, Seminar, Assignment, Project and Case Study.
3. Planning for Teaching: Bloom's Taxonomy of Instructional Objectives, Writing Instructional Objectives in Behavioral Terms. Unit Planning and Lesson Planning.
4. Teaching Aides: Types of Teaching Aides, Principles of Selection, Preparation, and Use of Audio-Visual Aides.
5. Clinical Education: Awareness and Guidance to the Common People about Health and Diseases and Available Professional Services, Patient Education, Education of the Practitioners.

#### **UNIT-V: LEGAL PROFESSIONAL ETHICAL ISSUES:**

**(8Hours)**

1. The Implications & Conformation to the Rules of Professional Conduct.
2. Code of Ethics.
3. Legal Responsibility for Their Actions in the Professional Context and Understanding the Physiotherapist's Liability And Obligations In The Case Of Medical Legal Action.
4. A Wider Knowledge of Ethics Relating to Current Social and Medical Policy in the Provisions of Health Care.
5. The Role of the International Health Agencies Such as the World Health Organizations.
6. Standards of Practice for Physiotherapists
7. Current Issues.

#### **RECOMMENDED BOOKS: MANAGEMENT**

1. Basic Management. Trivedi
2. Market Segmentation Theory. P Cotler
3. Hospital Administration. Sundaran
4. Byelaws of the Delhi Council for Physiotherapy and Occupational Therapy

#### **RECOMMENDED BOOKS: EDUCATION**

1. Principles of Education – Soti Shivendra Chandra and Rajendra K. Sharma
2. Philosophical Foundation of Education – Srinibas Bhattacharya
3. Sociological Foundation of Education – Srinibas Bhattacharya
4. Psychological Foundation of Education – Srinibas Bhattacharya

# **SUBJECT NAME: BIOMECHANICS & KINESIOLOGY-II**

**SUBJECT CODE: PT 602**

**(w.e.f. July 2015)**

**L T P**  
**3 1 0**

**COURSE OBJECTIVES:** Students will be able to identify and apply principles of biomechanics while setting up individualized treatment protocols. Following are the topics to be included but not limited to:

## **UNIT-I KINESIOLOGY OF UPEER LIMB: (8 Hours)**

**Arthrology and Arthrokinematics, Kinetics, Pathokinesiology**

1. Shoulder
2. Elbow
3. Wrist and Hand

## **UNIT-II KINESIOLOGY OF UPEER LIMB: (8 Hours)**

**Arthrology and Arthrokinematics, Kinetics, Pathokinesiology**

1. Hip
2. Knee
3. Ankle and Foot

## **UNIT-III KINESIOLOGY OF SPINE: (8 Hours)**

**Arthrology and Arthrokinematics, Kinetics, Pathokinesiology**

1. Cervical
2. Thoracic
3. Lumbar-sacral

## **UNIT-IV GAIT AND POSTURE: (8 Hours)**

1. Gait Parameter- Kinetic, Kinematic, Time – Space, Pathological Gait –Running, Stair Climbing, Changes in Gait Following Various Surgeries /Diseases / Disorders.
2. Posture- Standing, Sitting, Pathokinesiology

## **UNIT-V BIOMECHANICS OF ORTHOSIS & PROSTHESIS: (8 Hours)**

1. Orthosis of Upper Limb,
2. Orthosis of Lower Limb,
3. Orthosis of Spine,
4. Bioengineering of Prosthesis, Prescriptions Checkouts & Proper Fittings, Biomechanical Principles governing them of Prosthetics, Aids used in Management of Disability.

## **RECOMMENDED BOOKS:**

1. Biomechanics & clinical Kinesiology-Cynthia Norkin
2. Basic Biomechanics. Nordin.
3. Basic Biomechanics & clinical Kinesiology. Otis
4. Biomechanics of Human Movement. D Winter
5. Kinesiology: Application to Pathological Motion. GL Soderberg
6. Brunnstrom's Clinical Kinesiology. LK Smith, EL Weiss, LD Lehmkuhl
7. Kinesiology: Scientific Basis of Human Motion. K Luttgens, N Hamilton

**SUBJECT NAME: PHYSIOTHERAPY-II**  
**(MUSCULOSKELETAL SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 603M**  
**(w.e.f. July 2015)**

**L T P**  
**3 1 0**

**COURSE OBJECTIVES:** Clinical decision making-

1. Analysis of the process and knowledge necessary for identifying the neuromuscular tissue or system representing the origin of disorders in patients. Signs and symptoms from history and physical examination will be the focus with appropriate ancillary testing necessary to confirm hypotheses regarding musculoskeletal pathology. The intent is for students to be able to differentiate clusters of signs and symptoms and to make appropriate clinical decisions regarding same.
2. This subject will examine basic research process and investigative strategies by reviewing existing applied clinical literature. Students will know how to query a database and answer questions about their everyday practice as well as have necessary information to prepare peer reviewed , published manuscripts based on , multiple cases or experimental research.

**UNIT-I: MUSCULOSKELETAL EXAMINATION OF THE UPPER QUADRANT:**

**(8 Hours)**

The subject will include musculoskeletal examination, involving the shoulder, elbow, wrist and hand. Classes will include lecture, laboratory and clinical experiences.

**UNIT-II: Musculoskeletal examination of the lower quadrant:**

**(8 Hours)**

The subject will include musculoskeletal examination, involving the hip, knee, ankle foot. Classes will include lecture, laboratory and clinical experiences.

**UNIT-III: Musculoskeletal examination of the lumbar pelvic spine:**

**(8 Hours)**

The subject will include musculoskeletal examination, involving the lumbopelvic complex and hip. Classes will include lecture, laboratory and clinical experiences.

**UNIT-IV: Musculoskeletal examination of the cervical and thoracic spine:(8 Hours)**

The subject will include musculoskeletal examination, involving the lumbopelvic complex and hip. Classes will include lecture, laboratory and clinical experiences.

**UNIT-V: Physiotherapy management in specific traumatic condition:**

**(8 Hours)**

1. Trauma of the upper limb
2. Trauma of the lower limb
3. Trauma of the spine.
4. Amputation, Physiotherapy management, reviews of prosthetic types and construction, advantage and disadvantage.

**RECOMMENDED BOOKS:**

1. David J Magee Orthopaedic Physical Assessment.
2. S. Brent Brotzman. Kevin e wilk Clinical Orthopaedic Rehabilitation.
3. Kessler, Management of common musculoskeletal disorders.
4. Nicola. J.Petty, Neuromusculoskeletal Examination and Assessment
5. Saurabh Garg Essential of orthophysiotherapy for upper and lower limb fracture



**SUBJECT: PHYSIOTHERAPY: II**  
**(NEUROLOGICAL SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 603N**  
**(W.e.f. July 2015)**

**L T P**  
**3 1 0**

**COURSE AIMS AND OBJECTIVES:**

1. After a review of the latest theories of motor control, motor learning, and recovery of function, students are provided with a conceptual framework for clinical practice and a practical framework for understanding and examining impairments in patients with neurological deficits.
2. Armed with a solid foundation, students then build a thorough understanding of motor control issues as they relate to posture and balance, mobility, and upper extremity function. For each of these three key areas, the authors discuss normal control processes, age-related issues, abnormal function, and the clinical applications of current research.

**UNIT I: MANAGEMENT OF MOVEMENT DISABILITIES: (8 Hours)**

1. Parkinson's disease.
2. Huntington's Chorea, Wilson's disease.
3. Movement Dysfunction Associated with Cerebellar Problems.
4. Balance and Vestibular Dysfunction.
5. Motor Learning Concepts In Balance Retraining Techniques.

**UNIT II: MANAGEMENT OF CLINICAL PROBLEMS: (8 Hours)**

1. Multiple Sclerosis.
2. Amyotrophic Lateral Sclerosis.
3. Demyelinating Inflammatory Polyradiculoneuropathy.
4. Hemiplegia.
5. Gait Rehabilitation.

**UNIT III: UNDERSTANDING MOTOR PERFORMANCE IN CHILDREN: (8 Hours)**

1. The Child's Development of Functional Movement
2. Musculoskeletal Development and Adaptation
3. Developmental Coordination Disorder.
4. Physical Fitness during Childhood.
5. Clinical Decision making in pediatric physical therapy
6. Cerebral Palsy & Myelodysplasia

**UNIT IV: UNDERSTANDING MOTOR PERFORMANCE IN GERIATRICS: (8 Hours)**

1. Health and wellness issues in Geriatrics.
2. Ageing with dignity and chronic impairments.
3. Intervention for depression and fear of fall.
4. Balance and Coordination training in Geriatrics.
5. Cognitive & perceptual dysfunctions and their impact on Geriatrics rehabilitation.



**UNIT V: FUNDAMENTALS OF THERAPEUTIC APPROACHES:****(8 Hours)**

1. Proprioceptive Neuromuscular Facilitation (PNF).
2. Neurodevelopment therapy (NDT).
3. Sensory integration Technique (SIT).
4. Motor Relearning Program (MRP).
5. Constraint Induced Movement Therapy (CIMT)
6. Roods approach
7. Vojta Therapy
8. Mental imagery technique

**RECOMMENDED BOOKS:**

1. Physical Therapy For Children By Suzann K. Campbell
2. Neurological rehabilitation by Darcy a. Umphred
3. Motor Control. Theory and Practical Applications. AS Cook, M Woollacott
4. A Motor Relearning Programme for Stroke. J Carr. R Shepherd
5. Motor Control and Learning. A Behavioral Emphasis. R A Schmidt

**SUBJECT NAME: PHYSIOTHERAPY II**  
**(CARDIOPULMONARY SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 603C**  
**(W.e.f. July 2015)**

L T P  
3 1 0

**UNIT I - PRE-TEST CLINICAL EVALUATION IN EXERCISE TESTING (8 Hours)**

- a) Medical history, physical examination, and laboratory tests
- b) Alternative stress tests
- d) Cholesterol and lipoproteins
- f) Pulmonary function
- h) Informed consent
- c) Blood pressure
- e) Blood profile analyses
- g) Contraindication of exercise testing
- i) Patient instruction

**UNIT II -CARDIOPULMONARY FITNESS TESTING AND INTERPRETATION (8 Hours)**

- a) Purpose of fitness testing
- c) Body composition
- e) Maximal verses sub-maximal exercise testing
- g) Cardiopulmonary test sequence and measures
- b) Basic principles and guidelines
- d) Concept of maximal oxygen uptake
- f) Modes of testing
- h) Test termination criteria

**UNIT III - MAJOR MANIFESTATIONS OF HEART DISEASE & CARDIAC REHABILITATION (8 Hours)**

**I. Development, Intervention, and Prevention of Coronary Artery Disease**

**1. Atherosclerosis**

- a) Process of Plaque Formation
- b) Acute Coronary Syndromes

**2. Contemporary Revascularization Procedures**

- a) Coronary Arteries and CAD
- c) Percutaneous Coronary Interventions
- b) Coronary Artery Bypass Surgery

**3. Efficacy of Secondary Prevention and Risk Factor Reduction**

- a) Cardiac Rehabilitation
- c) Smoking
- e) Diabetes Mellitus
- g) Hypertension
- i) Psychosocial Dysfunction
- k) Optimizing Secondary Prevention
- b) Prescription Drug Therapies
- d) Dyslipidemia
- f) Obesity
- h) Sedentary Lifestyle
- j) Other Risk Factors

**4. Psychosocial Issues and Strategies**

- a) Psychosocial Evaluation
- c) Promoting Adherence
- b) Psychosocial Interventions

**UNIT IV ROLE OF EXERCISE IN HEART DISEASE: (8 Hours)**

**1. Exercise and the Coronary Heart Disease Connection**

- a) Observational Data
- c) Exercise Training in Established Coronary Disease
- e) Potential Mechanisms of Exercise Benefit
- b) Cardiorespiratory Fitness and Coronary Death
- d) Risks of Acute Exercise

## **2. Cardiovascular and Exercise Physiology**

- a) Energy Systems and Cellular Respiration
- b) Cardiopulmonary Response
- c) Perturbation of the Exercise Response in CVD
- d) Adaptations to Exercise Training

## **UNIT V. Electrocardiography in Heart Disease**

- a) Electrodes and Leads
- b) Supraventricular Arrhythmias
- c) Ventricular Arrhythmias
- d) Atrioventricular (AV) Blocks
- e) Bundle Branch Blocks
- f) Myocardial Infarction and Ischemia
- g) ST Segment Deviations During Exercise
- h) ECG Monitoring Issues During Exercise

## **RECOMMENDED BOOKS:**

1. Physiotherapy for Respiratory and Cardiac Problems - by Jennifer A. Pryor, S. Ammani Prasad
2. Lifestyle Management for Patients With Coronary Heart Disease; by Houston Miller
3. Training Techniques In Cardiac Rehabilitation; by Fardy, Paul
4. Coping With Heart Illness Video Pkg (NTSC); by Human Kinetics
5. Exercise Prescription for the High-Risk Cardiac Patient; by Squires, Ray
6. Physical Activity and Cardiovascular Health; by Leon, Arthur,
7. Advances in Cardiopulmonary Rehabilitation: by Jobin, Jean
8. Coronary Artery Disease; Author: Brubaker, Peter
9. Advancing the Frontiers of Cardiopulmonary Rehabilitation; by Jobin, Jean
10. Exercise and Circulation in Health and Disease; by Saltin, Bengt
11. Exercise Prescription-2nd Edition; by Swain, David P
12. Clinical Exercise Physiology; by Ehrman, Jonathan.

**SUBJECT NAME: PHYSIOTHERAPY-II**  
**(SPORTS SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 603S**  
**(W.e.f. July 2015)**

**L T P**  
**3 1 0**

**COURSE OBJECTIVES:**

This course provides students with the principles of Physiotherapy management in sports related injuries and in sports training and the application of these principles in specific disorders. Through lectures, case conferences, journal discussions and class discussions students will be able to set up a treatment programme tailored to the patient's needs. **Following are the topics to be included but not limited to:**

**UNIT-I SPORTS BIOMECHANICS: (8 Hours)**

Basic principles of biomechanics are reinforced with added emphasis on the changes in biomechanical function and their subsequent effect on the potential and influence on overuse injuries.

1. Biomechanics Running
2. Biomechanics Throwing
3. Biomechanics Jumping,
4. Biomechanics Swimming

The student to analyze, explain and correct abnormal human movement of the above Sports Biomechanics using a variety of evaluative techniques and computerized tools.

**UNIT-II SPORTS ERGONOMICS: (8 Hours)**

A study of the sporting environment and its effect on injury mechanism, prevention and rehabilitation. The principles of injury pathomechanics, tissue responses to loading and the role of sports equipment in sports injury prevention and rehabilitation. The following specific areas will be studied:

1. Mechanical support to the body - taping, splinting, braces, orthotics.
2. Protective equipment - body padding, mouthguards, helmets, headgear, etc.,
3. Sport-specific problems.
4. Shoe-surface interaction (Athletic Shoes) - footwear design, surface characteristics, traction, various modifications and adaptations in shoes for specific situations and conditions. The evaluation of shoes and shoe prescription.

**UNIT-III: KINANTHROPOMETRY IN SPORTS: (8 Hours)**

1. Introduction to kin anthropometry
2. Evaluation techniques
3. Body composition
4. Somatotyping

**UNIT-IV: ERGOGENIC AIDS & DOPING: (8 Hours)**

1. Doping,
2. Types of doping,
3. TUEC,
4. Blood Doping.
5. Gene Doping

**UNIT-V SPORTS NUTRITION: (8 Hours)**

1. Introduction to sports nutrition
2. Special considerations for competitive athletes & Energy needs of the athlete
3. Pre-competition meals
4. Content of pre-competition meals, Glucose and insulin responses of pre-competition meals.
5. Glycogen loading (super compensation)

**RECOMMENDED BOOKS:**

1. Prentice, William E., Rehabilitation Techniques in Sports Medicine, St. Louis: McGraw Hill Publishing Company.
2. Gray, Gary W., Lower Extremity Functional Profile, 1st Edition, Adrian, MI: Wynn Marketing.
3. Prentice, W. "Therapeutic Modalities for Allied Health Professionals" McGraw Hill.
4. Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
5. William E. Prentice: Rehabilitation Techniques - Mosby.
6. Werner Kuprian: Physical Therapy for Sports, W.B. Saunders.
7. Ed. Burke & Deakin. Clinical Sports Nutrition, 3rd ed., McGraw-Hill
8. Exercise physiology, Katch And Katch, Mccardle

**SUBJECT NAME: PHYSIOTHERAPY-II**  
**(GENERAL OBSTETRIC AND GYNAECOLOGICAL MANAGEMENT)**  
**SUBJECT CODE: PT 603G**  
**(W.e.f. July 2019)**

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**UNIT-I (ANTENATAL CARE) (8 Hours)**

1. Concept, principles and organization of antenatal exercises
2. Role of PT in antenatal complication
3. Antenatal and early bird classes
4. Ergonomics and diet ,weight gain during pregnancy

**UNIT-II (PT MANAGEMENT DURING LABOUR) (8 Hours)**

1. Preparation and education
2. Relaxation
3. Breathing, techniques and alteration during labour
4. Positioning and massage during labour

**UNIT-III (POSTNATAL CARE) (8 Hours)**

1. Concepts, principles and organization of postnatal classes.
2. PT management of immediate postnatal problems
3. PT management of late postnatal problems
4. Ergonomics and diet ,weight management, physical fitness

**UNIT-IV (BREAST FEEDING) (8 Hours)**

1. Breast milk, its advantages
2. Breast feeding positions, Common problem in Breast feeding
3. Breast engorgement and its PT management
4. Types of nipples and its problems.

**UNIT-V (THERAPEUTIC INTERVENTION) (8 Hours)**

1. Electrotherapy modalities in obstetrics & Gynaecological physical impairment
2. Swiss ball and theraband exercises
3. Vaginal cones and perineometer
4. Soft tissue manipulation

**RECOMMENDED BOOKS**

1. Physiotherapy in Obstetrics and Gynaecology ; Margaret Polden Jill Mantle Jay Pee
2. Therapeutic Management of Incontinence and Pelvic Pain by J. Laycock and J. Haslam
3. Women's Health: A Textbook for Physiotherapists by Ruth Sapsford, Joanne Bullock-Saxton and Sue Markwell Bphty.
4. Obstetric and Gynaecologic Physical Therapy by E. Wilder
5. Physiotherapy in Pregnancy: Antenatal, Postnatal and Baby Care by Balaji Hiranandani.

**SUBJECT NAME: PHYSIOTHERAPY-II  
(BIOMECHANICAL SPECIFIC PHYSICAL THERAPY ASSESSMENT)  
SUBJECT CODE: PT 603B  
(W.e.f. July 2019)**

L T P  
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**UNIT I- (BIOMECHANICAL ASSESSMENT OF SHOULDER, ELBOW, WRIST, HAND DYSFUNCTION AND DERANGEMENT) (8 Hours)**

1. Muscular imbalance.
2. Abnormal motion.
3. Soft tissue.
4. Biomechanical Functional assessment.

**UNIT II- (BIOMECHANICAL ASSESSMENT OF HIP, KNEE, ANKLE, FOOT DYSFUNCTION AND DERANGEMENT) (8 Hours)**

1. Muscular imbalance.
2. Abnormal motion.
3. Soft tissue.
4. Biomechanical functional assessment.

**UNIT III- (BIOMECHANICAL ASSESSMENT OF TMJ, ATLANTO-OCCIPITAL, CERVICOTHORACIC, LUMBOPELVIC DYSFUNCTION AND DERANGEMENT) (8 Hours)**

1. Muscular imbalance.
2. Abnormal motion.
3. Soft tissue.
4. Biomechanical functional assessment.

**UNIT IV- (QUALITATIVE BIOMECHANICAL OCCUPATIONAL ASSESSMENT) (8 Hours)**

1. Sitting Job workers (White color)
2. Motor Vehicle driver, Carpenter
3. Mason, Plumber, Electrician
4. Work place assessment

**UNIT V- (BIOMECHANICAL ASSESSMENT OF COMMON ADL URBAN /RURAL CULTURE) (8 Hours)**

1. Feeding
2. Bathing
3. Grooming
4. Dressing

**RECOMMENDED BOOKS**

1. Brunnstrom's Clinical Kinesiology - Laura K. Myth et al., Publishers - F.A. Davis.
2. Clinical Biomechanics of Spine - White A.A. and Panjabi - J.B. Lippincot, Philadelphia.
3. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen Publishers - Williams and Wilkins.
4. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler
5. Scientific Basis of Human Movement - Gowitzke, Williams & Wilkins, Baltimore, 1988, 3rd Edition

**SUBJECTNAME: BIOMECHANICS AND KINESIOLOGY-II LAB**  
**SUBJECT CODE: PT 604**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be able to identify and apply principles of biomechanics while setting up individualized treatment protocols. Following are the topics to be included but not limited to. This involves application of topics in demonstrations, field visits and case presentations.



**SUBJECT CODE: PHYSIOTHERAPY-II LAB**  
**(MUSCULOSKELETAL SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 605M**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be instructed via demonstration, hands on techniques, field visits and case conference on specific techniques used in the management of patients with musculoskeletal disorders. Students will draw on their experiences at the experiences at the clinical postings to formulate a treatment plan for case presented at the case conference.

**SUBJECT CODE: PHYSIOTHERAPY-II LAB**  
**(NEUROLOGICAL SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 605N**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be instructed via demonstrations, hands-on techniques, field visits and case conferences on specific techniques used in management of patients with neurological disorders. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-II LAB**  
**(CARDIOPULMONARY SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 605C**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 2**

Students will be instructed via demonstrations, hands on techniques, field visits and case conferences on specific techniques used in management of patients with cardiopulmonary disorders. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-II LAB  
(SPORTS SPECIFIC PHYSICAL THERAPY AND REHABILITATION)  
SUBJECT CODE: PT 605S  
(w.e.f. July 2015)**

**L T P  
0 0 2**

Students will be instructed via demonstrations, hands-on techniques, field visits and case conferences on specific techniques used in management of patients with sports injuries. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-III LAB**  
**(OBSTETRICS AND GYNAECOLOGICAL PHYSIOTHERAPY MANAGEMENT)**  
**SUBJECT CODE: PT 605G**  
**(w.e.f. July 2019)**

**L T P**  
**0 0 2**

Students will be instructed via demonstration, hands on management, hospital visits and case presentation on specific intervention used in the management of patients with obstetrics and gynaecological disorders. Students will draw on their experiences at the clinical postings to formulate a management plan for case presented at conference.

**SUBJECT NAME: PHYSIOTHERAPY-III LAB  
(SPECEFIC BIOMECHANICAL ASSESSMENT)**

**SUBJECT CODE: PT 605B  
(w.e.f. July 2019)**

**L T P  
0 0 2**

Students will be instructed via demonstration, hands on specific assessment, field, hospital visits and case presentation on specific biomechanical assessment used in the assessment of patients with biomechanical dysfunction. Students will draw on their experiences at the clinical postings to formulate a specific biomechanical assessment plan for case presented at conference.

**SUBJECT NAME: SEMINAR ON CLINICAL ISSUES**  
**SUBJECT CODE: PT 606**  
**(w.e.f. July 2015)**

L T P  
0 3 0

These will serve as a platform for students to integrate various components of patient management and debate contentious issues in the efficacy of Physiotherapy techniques used in musculoskeletal, neurological, cardiopulmonary, & Sports rehabilitation. Students will present on topics provided to them.

**CHECK LIST FOR EVALUATION OF SEMINAR PRESENTATIONS**

**Name of the students:**

**Date:**

**Topic:**

**Marks: 50**

S.No.	Item for observation during presentation	Poor (0)	Below Average (1)	Average (2)	Good (3)	Very Good (4)	Excellent (5)
1.	Introduction						
2.	Review of Literature						
3.	Recent Development						
4.	Clarity of presentation						
5.	Understanding of subject						
6.	Ability to answer the questions						
7.	Time management						
8.	Appropriate use of audio/visual aids						
9.	Overall performance						
10.	Any other observations						
	TOTAL						

Comments:

**Name signature of the faculty/observer:**

**HOD**  
**Department of Physiotherapy**

**SUBJECT NAME: CLINICAL TRAINING**  
**SUBJECT CODE: PT 607**  
**(w.e.f. July 2015)**

L T P  
0 0 14

Students will engage in clinical practice in Physiotherapy departments in the musculoskeletal, neurology, cardiopulmonary, sports settings to enhance their clinical skills and apply contemporary knowledge gained during teaching sessions.

**MODEL CHECKLIST FOR EVALUATION OF CLINICAL TRAINING**

**Name of Student:**

**Month:**

**Name of Faculty/ Supervisor:**

**Date:**

S. No.	Point to be Considered	Poor (0)	Below Average (1)	Average (2)	Good (3)	Very Good (4)	Excellent (5)
1.	Punctuality						
2.	Interaction with colleagues and supporting staff						
3.	Maintenance of case records						
4.	Presentation of case during rounds						
5.	Investigation work up						
6.	Bedside Manners						
7.	Rapport with patients						
8.	Treatment approach & technique						
9.	Discipline						
10.	Overall quality of clinical work						
	<b>TOTAL SCORE</b>						

Comments:

**Signature of Faculty/ Supervisor**

**HOD**  
**Department of Physiotherapy**



**STUDY & EVALUATION SCHEME  
OF  
MASTER OF PHYSIOTHERAPY**

**(MPT - II YEAR/ IV SEMESTER)**

**[Applicable w.e.f. Academic Session 2020-21 till revised]**



**INTEGRAL UNIVERSITY, LUCKNOW  
DASAULI, P.O. BAS-HA KURSI ROAD,  
LUCKNOW - 226026**

Website: [www.iul.ac.in](http://www.iul.ac.in)

**Approved by**

**Syllabus approved by Board of Study, Faculty Board, Academic Council,  
Executive Council of the Integral University, Lucknow**



**INTEGRAL UNIVERSITY, LUCKNOW**  
**DEPARTMENT OF PHYSIOTHERAPY**

**STUDY & EVALUATION SCHEME**  
**MASTER OF PHYSIOTHERAPY (MPT)**  
(w.e.f. July 2020)

**II<sup>nd</sup>: Year**

**IV-Semester**

Sl. No.	Subject Code	Name of Subjects	Periods			Credits	Evaluation Scheme				Subject Total
			L	T	P		Sessional		Exam		
							CT	TA		Total	
1	PT 608	Physiotherapy -III (M,N,C,S,G,B)	3	1	0	4	40	20	60	40	100
2	PT 609	Physiotherapy-III Lab (M,N,C,S,G,B)	0	0	4	2	40	20	60	40	100
3	PT 610	Dissertation	0	9	0	9	40	20	60	40	100
4	PT 611	Seminar on Clinical Issues	0	3	0	3	50	50	100	--	100
5	PT 612	Clinical Training	0	0	14	7	50	50	100	--	100
		<b>Total</b>	<b>03</b>	<b>13</b>	<b>18</b>	<b>25</b>	<b>220</b>	<b>160</b>	<b>380</b>	<b>120</b>	<b>500</b>

**L: Lecture**

**T: Tutorials**

**P: Practical**

**CT: Class Test**

**TA: Teacher Assessment**

**ESE: End Semester Examination**

**Sessional Total: Class Test + Teacher Assessment**

**Subject Total: Sessional Total + End Semester Examination (ESE)**

**Subjects Code: M, N, C, S, G, B**

**M= Musculoskeletal Branch,**

**N= Neurology Branch,**

**C= Cardiopulmonary Branch**

**S= Sports Physiotherapy Branch**

**G= Obstetrics and Gynaecology Branch**

**B= Biomechanics Branch**



**SUBJECT NAME: PHYSIOTHERAPY- III  
(PHYSIOTHERAPY MANAGEMENT IN DISORDERS OF THE  
MUSCULOSKELETAL SYSTEM)  
SUBJECT CODE: PT 608M  
(w.e.f. July 2015)**

**L T P**

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**UNIT-I: MANAGEMENT OF REGIONAL ORTHOPEDIC CONDITIONS OF UPPER**

**QUADRANT: (8 Hours)**

Treatment of the regional Orthopaedics conditions of Upper quadrant. This subject will include treatment of the musculoskeletal conditions involving the shoulder complex, elbow, wrist and hand. Emphasis will be made on clinical decision making and integrating manual therapy skills within the overall plan of care for the patient. Class will include lecture, laboratory and clinical experiences.

**UNIT-II: MANAGEMENT OF REGIONAL ORTHOPEDIC CONDITIONS OF LOWER**

**QUADRANT: (8 Hours)**

Treatment of the regional orthopaedic conditions of Lower quadrant. This subject will include treatment of the musculoskeletal conditions involving the hip, knee, ankle and foot. Emphasis will be made on clinical decision making and integrating manual therapy skills within the overall plan of care for the patient. Class will include lecture, laboratory and clinical experiences.

**UNIT-III: MANAGEMENT OF REGIONAL ORTHOPEDIC CONDITIONS OF**

**CERVICAL AND THORACIC SPINE: (8 Hours)**

Treatment of the regional orthopaedic conditions of cervical and thoracic spine. This subject will include treatment of the musculoskeletal conditions involving the cervical spine, the thoracic spine and rib cage. Emphasis will be made on clinical decision making and integrating manual therapy skills within the overall plan of care for the patient. Class will include lecture, laboratory and clinical experiences.

**UNIT-IV: MANAGEMENT OF REGIONAL ORTHOPEDIC CONDITIONS OF**

**LUMBOPELVIC SPINE: (8 Hours)**

Treatment of the regional orthopaedic conditions of lumbopelvic spine this subject will include treatment of the musculoskeletal conditions involving the lumbopelvic complex, including the hip joint. Emphasis will be made on clinical decision making and integrating manual therapy skills within the overall plan of care for the patient. Class will include lecture, laboratory and clinical experiences.

**UNIT-V: MANAGEMENT OF GENERAL ORTHOPEDIC CONDITIONS: (8 Hours)**

Physiotherapy management in general orthopaedic conditions.

1. Osteoarthritis.
2. Rheumatoid Arthritis.
3. Ankylosing Arthritis.
4. Tuberculosis of Spine.
5. CDH, CTEV, Torticollis.

**RECOMMENDED BOOKS:**

1. David J Magee Orthopedic physical assessment
2. S Brent brotzman. Kevin e wilk clinical orthopaedic rehabilitation
3. Kessler, Management of common musculoskeletal disorders.
4. Essential of Orthopedics Physiotherapy: Jhon Ebenezer.
5. Tidy Physiotherapy by Stuart Porter
6. Cash Textbook of Orthopaedics Physiotherapy by Marian Tidwell

**SUBJECT NAME: PHYSIOTHERAPY-III  
(NEUROLOGY REHABILITATION & ALTERNATIVE THERAPIES)  
SUBJECT CODE: PT 608N  
(w.e.f. July 2015)**

**L T P  
3 1 0**

**UNIT I: ASSISTIVE TECHNOLOGY IN NEUROLOGICAL POPULATION: (8 Hours)**

Assistive Technology in neurological population with special focus on

1. Spinal cord injury.
2. Motor Neuron diseases.
3. Muscular dystrophies.
4. Hemiplegia.
5. Traumatic brain injury.

**UNIT II: POSTURAL CONTROL: (8 Hours)**

1. Normal Postural Control
2. Development of Postural Control
3. Aging and Postural Control
4. Abnormal Postural Control
5. Clinical Management of the Patient with a Postural Control Disorder

**UNIT III: MOBILITY FUNCTION: (8 Hours)**

1. Control of Normal Mobility
2. A Life Span Perspective of Mobility
  - (a) Development of locomotion
  - (b) Locomotion in Older Adults
3. Abnormal Mobility
4. Clinical Management of the Patient with a Mobility Disorder

**UNIT IV: REACH, GRASP, AND MANIPULATION: (8 Hours)**

1. Normal Reach, Grasp, and Manipulation
2. Reach, Grasp, and Manipulation: Changes Across the Life Span
  - a. Early development of reach grasp and manipulation
  - b. Changes in older adults
3. Abnormal Reach, Grasp, and Manipulation
4. Clinical Management of the Patient With Reach, Grasp, and Manipulation Disorders

**UNIT V: ALTERNATIVE AND COMPLEMENTARY THERAPIES: (8 Hours)**

Beyond traditional approaches to intervention in neurological diseases, syndromes and disorders

1. Body weight support treadmill training (BWST)
2. Tai Chi
3. Cranio sacral therapy
4. Electroacupuncture
5. Biofeedback

**RECOMMENDED BOOKS:**

1. Movement Science by Carr and Shepherd
2. Neurological rehabilitation by DARCY A. UMPHRED
3. Motor Control. Theory and Practical Applications. AS Cook, M Woollacott
4. A Motor Relearning Programme for Stroke. J Carr. R Shepherd
5. Motor Control and Learning. A Behavioral Emphasis. R A Schmidt
6. Motor learning and performance. Richard A. Schmidt

**SUBJECT NAME: PHYSIOTHERAPY III  
(CARDIOPULMONARY REHABILITATION & HEALTH PROMOTION)  
SUBJECT CODE: PT 608C  
(w.e.f. July 2015)**

**L T P  
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(8 Hours)**

**UNIT-I INTERPRETATION OF CLINICAL TEST DATA:**

1. Exercise testing as a screening tool for coronary artery disease
2. Interpretation of response to graded exercise testing
3. Maximal oxygen uptake: Heart rate response, Blood pressure response, ECG wave forms.
4. Diagnostic value of exercise testing: Sensitivity, Specificity, Predictive value, Comparisons with imaging stress tests, Prognostic application of exercise test
5. Interpretation of exercise tests in pulmonary patients.
6. Exercise prescription in cardiovascular rehabilitation: Mode, Intensity, Frequency, Duration, Rate of Progression, Training Specificity, Arm Exercise Prescription, and Resistance Training.
7. Exercise testing as a screening tool for coronary artery disease

**UNIT-II OUTCOME MEASURES IN CARDIAC REHABILITATION: (8 Hours)**

**Special Considerations**

1. **Women:** Treatment of Coronary Heart Disease, Evaluation of Chest Pain, Cardiac Risk Factors, Noninvasive stress testing, Exercise Benefits, Enrollment and Adherence in Exercise Programs.
2. **Older Patients:** Cardiovascular Physiologic Changes of Aging, Coronary Heart Disease Risk Factor Management, Exercise Training.
3. **Diabetes Mellitus:** Classification, Diagnosis, and Screening, Complications, Medical Management, Exercise Prescription
4. **Chronic Heart Failure:** Exercise Benefits, Exercise Testing, Exercise Training.
5. **Heart Transplantation:** Physiology of the Denervated Heart, Exercise Responses, Evidence for Reinnervation, Exercise Training.

**UNIT-III PULMONARY REHABILITATION: (8 Hours)**

1. **Overview:** Definition and Scope of Pulmonary Rehabilitation, The Burden of Chronic Respiratory Disease, A Brief History of Pulmonary Rehabilitation, Essential Components of Pulmonary Rehabilitation, Prevention, Patient Goals, Program Goals.
2. **Selection and Assessment of the Pulmonary Rehabilitation Candidate:** Patient Selection, Patient Assessment, Goal Development, Rehabilitation Potential.
3. **Patient education and skills training:** Education process, Focus and Scope of Educational and Skills Training
4. **Exercise Assessment and Training:** Exercise Assessment, Functional Performance Assessment, Exercise Training, Emergency Procedures

- 5. Psychosocial Assessment and Intervention:** Adjustment Process, Psychosocial Assessment, Psychosocial Interventions.

**UNIT-IV SPECIFIC PULMONARY REHABILITATION: (8 Hours)**

**Disease-Specific Approaches in Pulmonary Rehabilitation**

1. Asthma
2. Cystic Fibrosis
3. Interstitial Lung Disease
4. Obesity-Related Respiratory Disorders
5. Pulmonary Hypertension
6. Neuromuscular and Chest Wall Disorders

**UNIT-V POST SURGICAL PULMONARY REHABILITATION: (8 Hours)**

Mode, Intensity, Frequency, Duration, Rate of Progression Training Specificity, Arm Exercise Prescription, Resistance Training-

1. Lung Volume Reduction Surgery
2. Lung Transplantation
3. Lung Cancer and Thoraco-abdominal Surgery
4. Mechanical Ventilation
5. Pediatric Patients With Respiratory Disease

**RECOMMENDED BOOKS:**

1. Physiotherapy for Respiratory and Cardiac Problems - by Jennifer A. Pryor, S. Ammani Prasad
2. Lifestyle Management for Patients With Coronary Heart Disease; by Houston Miller
3. Training Techniques In Cardiac Rehabilitation; by Fardy, Paul
4. Coping With Heart Illness Video Pkg (NTSC); by Human Kinetics
5. Exercise Prescription for the High-Risk Cardiac Patient; by Squires, Ray
6. Physical Activity and Cardiovascular Health; by Leon, Arthur,
7. Advances in Cardiopulmonary Rehabilitation: by Jobin, Jean
8. Coronary Artery Disease; Author: Brubaker, Peter
9. Advancing the Frontiers of Cardiopulmonary Rehabilitation; by Jobin, Jean



**SUBJECT NAME: PHYSIOTHERAPY-III**  
**(SPORTS SPECIFIC PHYSICAL THERAPY AND REHABILITATION)**  
**SUBJECT CODE: PT 608S**  
**(w.e.f. July 2015)**

**L T P**  
**3 1 0**

**COURSE OBJECTIVES:**

This course provides students with the principles of Physiotherapy management in sports related injuries and in sports training and the application of thesis principles in specific disorders. Through lectures, case conferences, journal discussions and class discussions students will be able to set up a treatment programme tailored to the patient's needs. **Following are the topics to be included but not limited to:**

**UNIT-I NON CONTACT SPORTS INJURIES: (8 Hours)**

Physiotherapy management of injuries related to specific sports: This includes the application of the above two sections to specific sports like the following:

1. Injuries related to Cricket
2. Injuries related to Running
3. Injuries related to Swimming
4. Injuries related to Volleyball
5. Injuries related to Tennis
6. Injuries related to Badminton
7. Injuries related to Gymnastics.

**UNIT-II LIMITED CONTACT SPORTS INJURIES: (8 Hours)**

Physiotherapy management of injuries related to specific sports: This includes the application of the above two sections to specific sports like the following:

1. Injuries related to Football
2. Injuries related to Baseball
3. Injuries related to Basket ball
4. Injuries related to Hockey
5. Injuries related to Cycling

**UNIT-III SEMI CONTACT SPORTS INJURIES: (8 Hours)**

1. Injuries related to Karate
2. Injuries related to Kick Boxing
3. Injuries related to Chinese Martial Arts
4. Injuries related to Kalari Payattu
5. Injuries related to Judo

**UNIT-IV FULL CONTACT SPORTS INJURIES:****(8 Hours)**

1. Injuries related to Kabbadi
2. Injuries related to Handball
3. Injuries related to Australian Rules football
4. Injuries related to Taekwondo
5. Injuries related to Wrestling
6. Injuries related to Sumo
7. Injuries related to Boxing

**UNIT-V -CURRENT ISSUES IN SPORTS PHYSICAL THERAPY:****(8 Hours)**

Presentation and discussion of current topics in sports physical therapy. Each specific topic, area or problem which is not adequately covered in the curriculum as determined by the needs of the students is covered in depth

1. Dry needling
2. K taping.
3. Tai-Chi-
4. Power Yoga
5. Other Recent methods in sports Rehabilitation

**RECOMMENDED BOOKS:**

1. Prentice, William E., Rehabilitation Techniques in Sports Medicine, St. Louis: McGraw Hill Publishing Company.
2. Gray, Gary W., Lower Extremity Functional Profile, 1st Edition, Adrian, MI: Wynn Marketing.
3. Prentice, W. "Therapeutic Modalities for Allied Health Professionals" McGraw Hill.
4. Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
5. William E. Prentice: Rehabilitation Techniques - Mosby.
6. Werner Kuprian: Physical Therapy for Sports, W.B. Saunders.
7. Sports Injuries: Mechanisms, Prevention, Treatment Freddie H. Fu, David Alan Stone, Lippincott Williams & Wilkins, 2001.

**SUBJECT NAME: PHYSIOTHERAPY-III**  
**(SPECIFIC OBSTETRIC AND GYNAECOLOGICAL MANAGEMENT)**  
**SUBJECT CODE: PT 608G**  
**(w.e.f. July 2019)**

**L T P**  
**3 1 0**

**COURSE OBJECTIVES:**

This course provides students with the principles of Physiotherapy management in Obs & Gyne related disorder and training and the application of thesis principles in specific disorders. Through lectures, case conferences, journal discussions and class discussions students will be able to set up a treatment programme tailored to the patient's needs. **Following are the topics to be included but not limited to:**

**UNIT-I (PT INTERVENTION FOR NEURO MUSCULOSKELETAL DYSFUNCTION IN OBSTETRICS) (8 Hours)**

1. Back and neck pain, CTS
2. SI and Hip pain, Heel pain
3. Knee pain and Osteoporosis
4. Diastasis recti and Diastasis symphysis pubis

**UNIT-II (PT INTERVENTION FOR VASCULAR DYSFUNCTION IN OBSTETRICS) (8Hours)**

1. Varicose Vein
2. Superficial vein thrombosis and deep vein thrombosis
3. Pulmonary oedema and embolism
4. Haemorrhoids

**UNIT-III (PT INTERVENTION FOR PELVIC FLOOR DYSFUNCTION) (8 Hours)**

1. Levator ani syndrome, Coccygodynia,
2. Pudendal Neuralgia, Incontinence, Over active bladder
3. Anismus, Vaginismus and vulvodynia, Dyspareunia
4. Electrotherapeutic modalities used in pelvic floor muscle training

**UNIT-IV (PT INTERVENTION IN POST SURGICAL CONDITION) (8 Hours)**

1. PT management of C section
2. PT management of episiotomy
3. PT management of hysterectomy
4. PT management of normal delivery and other gynecological surgery

**UNIT-V (PSYCHOLOGICAL CONDITION IN OBSTETRICS) (8 Hours)**

1. Maternal blues
2. Depression in pregnancy
3. Psychosis and sexual problems
4. Anxiety and bipolar mood disorder

## RECOMMENDED BOOKS

1. Obstetrics & Gynaecologic Physical Therapy - Wilder Elaine, Churchill, Livingstone
2. Women's Health: A Textbook for physiotherapists- Ruth Sapsford
3. Role Of Physiotherapist In Obstetric And Gynecological Conditions : Changela Purvi K - Jay Pee
4. Physiotherapy in Obstetrics and Gynaecology ; Margaret Polden Jill Mantle Jay Pee
5. Obstetric and Gynecologic Care in Physical Therapy, 2E by Rebecca G. Stephenson and Linda J. O'Connor

**SUBJECT NAME: PHYSIOTHERAPY-III  
(BIOMECHANICAL ASPECTS OF INTERVENTION)  
SUBJECT CODE: PT 608B  
(w.e.f. July 2019)**

**L T P  
3 1 0**

**UNIT I- (BIOMECHANICAL INTERVENTIONAL STRATEGIES FOR MUSCULOSKELETAL DYSFUNCTION AND DERANGEMENT) (8 Hours)**

1. Restoration and maintenance of accessory motion/ joint play
2. Correction and maintenance of muscle imbalance and soft tissue mobility
3. Correction of postural and malalignment dysfunction
4. Biomechanical basis of therapeutic exercises

**UNIT II- (BIOMECHANICAL INTERVENTIONAL STRATEGIES FOR NEURAL DYSFUNCTION) (8 Hours)**

1. Neurodynamics for Cervical and lumbar radiculopathy, Diabetic neuropathy
2. Neurodynamics for Upper and lower limb entrapment neuropathy
3. Biomechanical approach in neurological rehabilitation
4. Biomechanical basis of motor control

**UNIT III- (BIOMECHANICAL INTERVENTIONAL STRATEGIES FOR SPORT INJURY) (8 Hours)**

1. Sports injury prevention
2. Improve sports performance
3. Sports injury rehabilitation
4. Protective equipment in sports

**UNIT IV- (ERGONOMICAL INTERVENTIONAL STRATEGIES FOR OCCUPATIONAL DYSFUNCTION) (8 Hours)**

1. Seating work
2. Standing Work
3. Motor Vehicle driver, Carpenter
4. Mason, Plumber, Electrician

**UNIT V- (BIOMECHANICAL BASIS OF ORTHOSIS AND FOOT WEARS PRESCRIPTION) (8 Hours)**

1. Running injuries
2. Foot wears in different sports
3. Neurological disorders
4. Musculoskeletal disorders

## **RECOMMENDED BOOKS**

1. Mobilization of nervous system-David S. Butler, Churchill Livingstone
2. Management of common musculoskeletal disorders physical therapy principles and methods Darlen Hertling, RM Kessler
3. Athletic and sport issues in musculoskeletal rehabilitation David J. Magee, James E.Zachazewski
4. Industrial therapy Glenda L.Key
5. Scientific Basis of Human Movement - Gowitzke, Williams & Wilkins, Baltimore, 1988, 3rd Edition

**SUBJECT CODE: PHYSIOTHERAPY-III LAB  
(PHYSIOTHERAPY MANAGEMENT IN DISORDERS OF THE  
MUSCULOSKELETAL SYSTEM)  
SUBJECT CODE: PT 609M  
(w.e.f. July 2015)**

**L T P  
0 0 4**

Students will be instructed via demonstration, hands on techniques, field visits and case conference on specific techniques used in the management of patients with musculoskeletal disorders. Students will draw on their experiences at the clinical postings to formulate a treatment plan for case presented at the case conference.

**SUBJECT CODE: PHYSIOTHERAPY-III LAB  
(NEUROLOGY REHABILITATION & ALTERNATIVE THERAPIES)  
SUBJECT CODE: PT 609N  
(w.e.f. July 2015)**

**L T P  
0 0 4**

Students will be instructed via demonstrations, hands-on techniques, field visits and case conferences on specific techniques used in management of patients with neurological disorders. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.



**SUBJECT NAME: PHYSIOTHERAPY-III LAB  
(CARDIOPULMONARY REHABILITATION & HEALTH PROMOTION)  
SUBJECT CODE: PT 609C  
(w.e.f. July 2015)**

**L T P  
0 0 4**

Students will be instructed via demonstrations, hands on techniques, field visits and case conferences on specific techniques used in management of patients with cardiopulmonary disorders. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-III LAB  
(ADVANCE SPORTS PHYSICAL THERAPY AND REHABILITATION)  
SUBJECT CODE: PT 609S  
(w.e.f. July 2015)**

**L T P  
0 0 4**

Students will be instructed via demonstrations, hands-on techniques, field visits and case conferences on specific techniques used in management of patients with sports injuries. Students will draw on their experiences at the clinical postings to formulate a treatment plan for cases presented at the case conference.

**SUBJECT NAME: PHYSIOTHERAPY-III LAB  
(OBSTETRICS AND GYNAECOLOGICAL ADVANCE PHYSIOTHERAPY  
MANAGEMENT)  
SUBJECT CODE: PT 609G  
(w.e.f. July 2019)**

**L T P  
0 0 4**

Students will be instructed via demonstration, hands on management, hospital visits and case presentation on specific intervention used in the management of patients with obstetrics and gynaecological disorders. Students will draw on their experiences at the clinical postings to formulate a management plan for case presented at conference.

**SUBJECT NAME: PHYSIOTHERAPY-III LAB  
(BIOMECHANICAL ASPECTS OF INTERVENTION)  
SUBJECT CODE: PT 609B  
(w.e.f. July 2019)**

**L T P  
0 0 4**

Students will be instructed via demonstration, hands on management, field, hospital visits and case presentation on specific biomechanical intervention used in the management of patients with biomechanical dysfunction. Students will draw on their experiences at the clinical postings to formulate a biomechanical management plan for case presented at conference.

**SUBJECT NAME: DISSERTATION**  
**SUBJECT CODE: PT 610**  
**(w.e.f. July 2015)**

**L T P**  
**0 9 0**

These will serve as a platform for students to integrate various components of patient management and debate contentious issues in the efficacy of Physiotherapy techniques. Students will give presentations on topics provided to them.

**CONTINUOUS EVALUATION OF PROJECT WORKS BY GUIDE**

Course:

Year/Sem:

Name of unit Head/ Supervisor:

S. No.	Point to be Considered	Poor (0)	Below Average (1)	Average (2)	Good (3)	Very Good (4)	Excellent (5)
1.	Periodic Consultation with guide						
2.	Regular collection of case material						
3.	Depth of analysis/discussion						
4.	Departmental prescription of finding						
5.	Quality of final output						
	Review all heading						
6.	Introduction						
7.	Review of literature						
8.	Aims and objectives of study						
9..	Material & methods						
10.	Observation						
11.	Discussion						
12.	Conclusion						
13.	Bibliography						
14.	Tables & diagram						
15.	Annexure (if any) statistical analysis master chart						
	<b>TOTAL SCORE</b>						

Signature of Faculty/ Supervisor

HOD  
 Department of Physiotherapy

**SUBJECT NAME: SEMINAR ON CLINICAL ISSUES**  
**SUBJECT CODE: PT 611**  
**(w.e.f. July 2015)**

**L T P**  
**0 3 0**

These will serve as a platform for students to integrate various components of patient management and debate contentious issues in the efficacy of Physiotherapy techniques used in musculoskeletal, neurological, cardiopulmonary, & Sports rehabilitation. Students will present on topics provided to them.

**CHECK LIST FOR EVALUATION OF SEMINAR PRESENTATIONS**

**Name of the students:**

**Date:**

**Topic:**

**Marks: 50**

<b>S.No</b>	<b>Item for observation during presentation</b>	<b>Poor (0)</b>	<b>Below Average (1)</b>	<b>Average (2)</b>	<b>Good (3)</b>	<b>Very Good (4)</b>	<b>Excellent (5)</b>
1.	Introduction						
2.	Review of Literature						
3.	Recent Development						
4.	Clarity of presentation						
5.	Understanding of subject						
6.	Ability to answer the questions						
7.	Time management						
8.	Appropriate use of audio/ visual aids						
9.	Overall performance						
10.	Any other observations						
	<b>TOTAL</b>						

Comments:

Name signature of the faculty/observer:

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**SUBJECT NAME: CLINICAL TRAINING**  
**SUBJECT CODE: PT 612**  
**(w.e.f. July 2015)**

**L T P**  
**0 0 14**

Students will engage in clinical practice in Physiotherapy departments in the musculoskeletal, neurology, cardiopulmonary, sports settings to enhance their clinical skills and apply contemporary knowledge gained during teaching sessions.

**MODEL CHECKLIST FOR EVALUATION OF CLINICAL TRAINING**

**Name of Student:**

**Month:**

**Name of Faculty/ Supervisor:**

**Date:**

S. No	Point to be Considered	Poor (0)	Below Average (1)	Average (2)	Good (3)	Very Good (4)	Excellent (5)
1.	Punctuality						
2.	Interaction with colleagues and supporting staff						
3.	Maintenance of case records						
4.	Presentation of case during rounds						
5.	Investigation work up						
6.	Bedside Manners						
7.	Rapport with patients						
8.	Treatment approach & technique						
9.	Discipline						
10.	Overall quality of clinical work						
	<b>TOTAL SCORE</b>						

Comments:

Signature of Faculty/ Supervisor

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 Department of Physiotherapy