

SHRI GURU RAM RAI UNIVERSITY

[Estd. by Govt. of Uttarakhand, vide Shri Guru Ram Rai University Act no. 03 of 2017 & recognized by UGC u/s (2f) of UGC Act 1956]



SYLLABUS FOR
Masters of Physiotherapy
With CO, PSO And POMapping
School of -Paramedical Sciences

(W.E.F 2021-2022)

Masters of Physiotherapy

OUTCOME BASED EDUCATION

Programme outcome (POs)MASTERS OF PHYSIOTHERAPY

Programme name	MPT 1 st Year
Programme Code	M101

Students will be able to

1	PO1	Knowledge: Better understanding of the structures & physiological studies of mechanical, physical & biochemical functions of human body along with their functions of major body systems and its pathology.
2	PO2	The programme support to understand about the basic concepts of exercise physiology and nutrition, energy, work and power.
3	PO3	Development of knowledge regarding responses to exercise in various systems of the body like respiratory, cardiovascular, acid base balance ,hormonal systems.
4	PO4	Practical application: to describe the concept of posture and function of joints and muscles. Prescribed to correct impairments, restore muscular and skeletal functions, improvement in gait and balance , prevention and promotion of health, wellness & fitness
5	PO5	Skills: Facilitate muscle relaxation, prevention of atrophy, muscle rehabilitation and re-education by electrical muscle stimulations
6	PO6	Design : Evaluate skilled movement patterns which can be employed for many different purposes including pain reduction & functional improvement using various force systems and different types of exercise trainings.
7.	PO7	Basics: reacquire the knowledge of mobilization, strengthening, conditioning and fitness enhancement for neuromuscular control. Gained knowledge through pharmacological studies which provides significant positive impact on human health.
8.	PO8	Clinical enhancement: Understand the mechanism of injuries and learn how to implant exercise prescription. Focused on assessing and treating patient with neurological disorders. Understand patient's conditions related to shoulder,elbow,hand injuries etc.
9.	PO9	Recognize various pathomechanics of different complexes of joints and its management and prevention.
10	PO10	Skill Practise: Treatment and rehabilitate of musculoskeletal systems that has been subject to injury and trauma, Gain maximum potential,independence and optimize the quality of life in patient with neurological conditions by introducing importance of gait and its analysis.
11	PO11	Develop awareness of bioengineering concepts in rehabilitation.Introducing various concepts of manual therapy techniques and advanced electrotherapy in treating patients.
12	PO12	Skill enhancing through research methodology,biosatatics,educational technology and computers.

Programme name	MPT Orthopedics
Programme Code	M9501

1	PSO1	The ability to perform an appropriate subjective and physical examination with development of suitable analytical skills to evaluate data obtained. A sound theoretical knowledge & understanding of neuro-musculoskeletal conditions affecting, management needed (medical or surgical) and to apply appropriate techniques, rehabilitation based on etiology of disease and to progress with rehabilitation .
2	PSO2	Evaluate various level of spinal cord, rationalize the treatment approach according to the management needed (medical or surgical) and to apply appropriate techniques.
3	PSO3	Evaluate various level of hand injuries, rationalize various approaches for hand rehabilitation based on etiology of disease and to progress with rehabilitation .
4	PSO4	Enhance student's research ability through dissertation that will help in the course of degree pursuance.

Students will be able to

Programme name	MPT Neurology
Programme Code	M9601

1	PSO1	Analyze, Interpret and Evaluate various levels of spinal cord injuries & peripheral nerve injuries, the treatment approach according to the management (medical/surgical) and to apply appropriate techniques.
2	PSO2	Patient assessment and treatment planning including integration and interpretation of patient problems and effective goal setting for neurological patients.
3	PSO3	Evaluate primitive reflexes, analyse developmental milestones and apply various neo-natal therapeutic approaches and neurodevelopmental techniques
4	PSO4	Enhance student's research ability through dissertation that will help in the course of degree pursuance.

Students will be able to

Programme name	MPT Cardio-Pulmonary
Programme Code	M9701

Students will be able to

1	PSO1	Better understanding of applied anatomy and physiology of cardiorespiratory system and pre and post-operative medical and surgical management related to the system.
2	PSO2	Prescribe the various physiotherapy technique in ICU and cardiopulmonary patients
3.	PSO3	Develop the skill to formulate the fitness training programme in disease condition related to cardiopulmonary system.
4.	PSO4	Enhance student's research ability through dissertation that will help in the

		course of degree pursuance
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Programme name	MPT SPORTS
Programme Code	M9401

1	PSO1	Assessment and treatment planning including integration and interpretation of patient problems and effective goal setting.
2	PSO2	Demonstrate a well-developed problem solving ability and evidence based practice of paediatric physiotherapy
3	PSO3	Evaluate primitive reflexes, analyse developmental milestones and apply various neo-natal therapeutic approaches and neurodevelopmental techniques
4	PSO4	Enhance student's research ability through dissertation that will help in the course of degree pursuance

Students will be able to

Programme name	MPT Paediatric
Programme Code	M9410

1	PSO1	Analyse and interpret various sports injuries,pathomechanics and apply appropriate therapeutic techniques on and off field.
2	PSO2	Modify and devise various exercises for sports personnel and prevent injuries by applying proper dynamics during play.
3	PSO3	Analyse the effect of therapeutic modalities,indications & contraindications to ensure safety and carry out proper management in both acute and long standing injury condition.
4	PSO4	Enhance student's research ability through dissertation that will help in the course of degree pursuance

Students will be able to

Students will be able to

Programme name	MPT Obstetri& gynae
Programme Code	M9690

1	PSO1	The ability to perform an appropriate subjective and physical examination of pelvic organs, reproductive tract and abdominal with development of suitable analytical skills to evaluate data obtained. A sound theoretical knowledge & understanding of gynaecological problem and surgeries in gynaecological condition..
2	PSO2	Evaluate common complication and discomforts during pregnancy after delivery, rationalize the treatment approach according to the management needed (medical or surgical) and to apply appropriate techniques & understand the impact of exercise programs for specific women's physiology, pathophysiology and psychology of pregnancy, menopause, aging and osteopenia/ osteoporosis.
3	PSO3	Evaluate various level of PFM weakness due to menopause, peri-menopause and after delivery, rationalize various approaches for PFM rehabilitation based on etiology of disease and to progress with rehabilitation .Understand the safety issues associated with leading exercise classes for women with specific physical needs.
4	PSO4	Enhance student's research ability through dissertation that will help in the course of degree pursuance.

SHRI GURU RAM RAI UNIVERSITY

REGULATIONS FOR MASTER OF PHYSIOTHERAPY 1st YEAR COURSE

These regulations may be called the regulations for the Master of Physiotherapy degree (MPT) first year course of SGRR University, Patel Nagar, Dehradun, Uttarakhand

These regulations shall be deemed to have come into force from the academic year 2020-2021.

1. OBJECTIVES

The Postgraduate will be able to:

1. Apply advanced knowledge of clinical skills in problem solving.
2. Gather and interpret information within a holistic framework pertaining to health.
3. Design, implement and monitor appropriate therapeutic interventions.
4. Apply scientific principles to the concepts of health, illness and disability.
5. Promote health.
6. Appraise the social and political context of health care.
7. Promote Physiotherapy education.
8. Appraise action and social skills of self and others.

2. ELIGIBILITY

Applicants must possess one of the following minimum sets of qualifications:

- I. A Bachelor of Physiotherapy degree with not less than 4½ years duration (including 6 months of internship) from any University within India or equivalent degree from any other recognized university.
- II. A Bachelor of Physiotherapy degree under Transitory Regulations (one-year duration) for the Diploma holders in Physiotherapy offered by any university within India.
- III. Candidates holding qualification regarded as equivalent in standard to the above, may be considered subject to the approval of the Academic Senate on recommendations of Board of Studies, SGRR UNIVERSITY.

3. REGISTRATION

A candidate admitted to this course shall register with this University by remitting the prescribed fee along with the application form for registration duly filled in and forwarded to the University through the Head of the Institution within the stipulated time.

4. DURATION OF THE COURSE

The duration of the certified study for the Master of Physiotherapy course shall be a full time course extending over a period of two academic years for the award of the degree. Out of the total hours, 1/3 will be of classroom teaching including core lectures, practicals and seminars and the remaining 2/3 will be clinical training and dissertation.

5. NUMBER OF APPEARANCES

- I. A candidate registered for two years Post Graduate full time degree course must qualify in the Examinations within four years of the date of his/ her admission.
- II. However, a candidate may be permitted to undergo a further period of study and training of minimum six months duration in the institution, subject to approval of SGRR University.

6. PHYSICAL FITNESS

Every student prior to admission to the course should submit to the Head of the Institution, a certificate of Medical fitness that the candidate is physically fit to undergo the course.

7. CONDUCT OF EXAMINATIONS

There shall be two University Examination sessions in an academic year. The University Examination comprises of written, oral and practical Examination. The practical Examination will be conducted wherever stipulated.

8. MEDIUM OF INSTRUCTION

The medium of instruction for all subjects shall be in English, includes Teaching, Assessment and Textbook.

9. WORKING DAYS IN AN ACADEMIC YEAR

Each academic year shall consist of not less than 250 working days.

10. ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATIONS

- ❖ A candidate is required to have a minimum of 75% of attendance in each subject.
- ❖ A candidate lacking the prescribed attendance and progress in any one of the subjects, in the first appearance shall not be permitted for admission to the entire examination.

11. CONDONATION OF LACK OF ATTENDANCE

Condonation of shortage of attendance upto a maximum of 10% in the prescribed eligible attendance for admission to the University examination rests with the discretionary power of the Vice-Chancellor. For valid reasons, a candidate lacking in attendance may submit an application in the prescribed form and remit the stipulated fee 15 days prior to the commencement of the theory examination. Head of the Institution should satisfy themselves on the reasonableness of the candidate's request while forwarding the application with their endorsements to the Controller of Examination who would obtain the Vice-Chancellor's approval for admission of the candidate to the University examination.

12. RE-ADMISSION AFTER BREAK OF STUDY

Candidates having a break of study of five years and more from the date of admission and more than two spells of break will not be considered for re-admission. Candidates having break of study shall be considered for re-admission provided they are not subjected to any disciplinary action and no charges are pending or contemplated against him/her. Re-admission of candidates is subjected to the approval of the Vice-Chancellor of SGRR University.

The candidates having a break upto five years shall apply for re-admission to the Registrar of this University forwarded through the Institution. The candidate in such circumstance shall be granted exemption in the subjects she/he has already passed.

13. INTERNAL ASSESSMENT MARKS

- a) Written Test - 1 Written Test - 2 Written Test – 3 Average: 25 Marks
- b) Practical Test - 1 Practical Test – 2 Average: 20 Marks

Attendance Percentage Range	Marks to be awarded
0-75	0
76 – 80	1
81-85	2
86-90	3
91-95	4
96-100	5

91 – 95

Attendance Marks out of 5:

Marks scored in Internal Assessment out of 50 = a + b + c

- I. A failed candidate in any subject in University examinations shall be provided an opportunity to improve his sessional marks by conducting a minimum of two examinations in theory and practical separately.
- II. If a failed candidate does not appear for any "Improvement Mark Examinations" in the failed subject(s) the internal marks awarded for the previous examination shall be carried over for his subsequent appearance(s).

14. MARKS QUALIFYING FOR PASS IN THE EXAMINATIONS

- 50% of marks in theory where University Examinations are conducted, 50% of the marks in oral examinations and 50% of aggregate of theory and orals put together.
- 50% of marks in theory where University Examinations are conducted, 50% of the marks in oral examinations, 50% of the marks in practical Examinations and 50% of aggregate of theory, orals and practical put together. A separate 50% of the marks in Internal Assessment (IA) wherever applicable.

15. CLASSIFICATION OF SUCCESSFUL CANDIDATES

Passed in First Attempt Within Course Duration

- Percentage of Marks = 100.00----- >> First Class With Distinction
- Percentage of Marks 75.00 < 100.00 ----->> First Class With Distinction
- Percentage of Marks 60.00 < 75.00----- >> First Class
- Percentage of Marks 50.00 < 60.00----- >> Second Class

Passed in Second Attempt within Course Duration

- Percentage of Marks 60.00 < 100.01 ----->> First Class
- Percentage of Marks 50.00 < 60.00----- >> Second Class

Passed After Course Duration

- Percentage of Marks 50.00 < 100.01 ----->> Second Class

16. CARRY OVER OF FAILED SUBJECTS

If the candidate is failed in I Year, he / she shall appear in the supplementary examination.

The candidate is allowed to continue II year of the course carrying over the failed subjects.

NOTE- *INTERNAL ASSESSMENT ** EXTERNAL ASSESSMENT

STUDY & EVALUATION SCHEME
Master of Physiotherapy

Scheme of the examination for Master of Physiotherapy (M.P.T)
PART/YEAR – I - (M.P.T.)

Course Code	Course Title	Marks for Theory IA*	Marks for Theory EE**	Marks for Practical IA	Marks for Practical EE	Total marks
MPT101	Review of Basic Medical Sciences	30	70	----	-----	100
MPT102	Review of Basic Therapeutics	30	70	-----	----	100
MPT103	Advanced Therapeutics & Diagnosis	30	70	-----	----	100
MPT104	Skill Enhancing Studies	30	70	-----	-----	100
MPT105	Practical	-----	-----	30	70	100
	Total	120	280	30	70	500

MPT IN ORTHOPEDICS

Course Code	Course Title	Marks for Theory IA	Marks for Theory EE	Marks for Practical IA	Marks for Practical EE	Total
MPO-201	Orthopedics in Physical Therapy	30	70	----	----	100
MPO-202	Vertebral Disorders & Rehabilitation	30	70	----	----	100
MPO-203	Hand Rehabilitation	30	70	-----	-----	100
MPO-204	Practical	----	----	30	70	100
MPO-205	Review of Basic Chemistry	----	100	----	----	100
MPO-206	Dissertation	----	-----	----	200	200
	Total	90	310	30	270	700

MPT IN NEUROLOGY

Course Code	Course Title	Marks for Theory IA	Marks for Theory EE	Marks for Practical IA	Marks for Practical EE	Total
MPN-201	Physical Therapy in Neurological Disorders	30	70	-----	-----	100
MPN-202	Neurosurgical Rehabilitation	30	70	----	-----	100
MPN-203	Physical Therapy in paediatric neurology	30	70	-----	-----	100
MPN-204	Practical	----	----	30	70	100
MPN-205	Review of Basic Chemistry	----	100	---	---	100
MPN-206	Dissertation	---	---	----	200	200
	Total	90	310	30	270	700

MPT IN CARDIOPULMONARY

Course Code	Course Title	Marks for Theory IA	Marks for Theory EE	Marks for Practical IA	Marks for Practical EE	Total
MPC-201	Medical & surgical management of disorders of the cardiopulmonary system	30	70	30	70	100
MPC-202	PT management & principle of cardiopulmonary system	30	70	30	70	100
MPC-203	Cardio-pulmonary rehabilitation & acute cardio respiratory practice	30	70	30	70	100
MPC-204	Practical	----	----	30	70	100

MPT IN SPORTS REHABILITATION

Course Code	Course Title	Marks for Theory IA	Marks for Theory EE	Marks for Practical IA	Marks for Practical EE	Total
MPS-201	Traumatology (orthopedics & community medicine, physical therapy)	30	70	----	----	100
MPS-202	Fundamentals in Sports	30	70	-----	----	100
MPS-203	Rehabilitation in Sports	30	70	-----	-----	100
MPS-204	Practical	---	---	30	70	100
MPS-205	Review of Basic Chemistry	----	100	----	----	100
MPS-206	Dissertation	---	---	---	200	200
	Total	90	310	30	270	700

MPT IN PAEDIATRICS

Course Code	Course Title	Marks for Theory IA	Marks for Theory EE	Marks for Practical IA	Marks for Practical EE	Total
MPP-201	PT for paediatric neurological condition	30	70	30	70	100
MPP-202	PT for orthopaedic condition	30	70	30	70	100
MPP-203	PT for cardio-respiratory condition	30	70	30	70	100
MPP-204	Practical	----	----	30	70	100
MPP-205	Review of Basic Chemistry	----	100	---	---	100
MPP-206	Dissertation	---	---	----	200	200
	Total	90	310	30	270	700

MPT IN OBSTETRICS & GYNAECOLOGY

Course Code	Course Title	Marks for Theory IA	Marks for Theory EE	Marks for Practical IA	Marks for Practical EE	Total
MPOG-201	Medical & surgical Gynaecology	30	70	30	70	100
MPOG-202	Clinical Obstetrics	30	70	30	70	100
MPOG-203	Physiotherapy management in Gynaecology & obstetrics	30	70	30	70	100
MPOG-204	Practical	----	----	30	70	100
MPOG-205	Review of Basic Chemistry	----	100	---	---	100
MPOG-206	Dissertation	---	---	----	200	200
	Total	90	310	30	270	700

ExaminationScheme:

Components	I st internal	II nd Internal	Presentation/ Assignment/ Project	External (ESE)
Weightage(%)	Marks	Marks	Marks	Marks

Programme Name

Programme Name	MPT
Programme Code	M9690
Course name	Review of Basic Medical Sciences
Course Code	MP101
Year/Semester	I st year

Course Outcomes

CO1:To describe Anatomy and applied anatomy for supportive specification like upper & lower limb,thorax,vertebral column,head & neck.

CO2: To summarize various systems in human body like cardiovascular,muscular,respiratory,nervous,reproductive systems and to analyse between normal & abnormal functions.

CO3: To apply pharmacology in medical Professional supportive purpose/action reaction of the medical related to different specialization.

CO4:To evaluate pathology in basic condition's knowledge,their pathological changes& their relevant conditions to support the specialization.

CO5: To summarise exercise physiology and its response in respiration,cardiovascular ,acid base balance,hormonal along with nutrition and diet chart of different sporting demands placed on athletes & other involved in physical activity.

Unit-I

Introduction to upper limb & lower limb

- Bones & Joints
- Muscles
- Nerves, Roots, Plexus.
- Pectoral region, axilla, scapula, arm, forearm, cubital fossa & hand.
- Vascular structure.

- f) Thigh, gluteal region, popliteal fossa.
- g) Leg, ankle and foot.

Introduction of lungs, heart & thorax anatomy.

Introduction of vertebral column.

- a) Cervical, thoracic, lumbar, sacral spine.
- b) Anatomy of spinal cord.

Introduction of head & neck

Neck : Side of neck ,Triangle of Neck

Temporomandibular joint

Introduction to brain.

- a) Meanings, CSF
- b) Blood supply of brain & Spinal cord.
- c) Outline of ventricles
- d) Outline of brain stem.

Introduction to anatomy of reproductive system.

Neonatal development, millstones, neonatal reflexes etc.

Unit II: Human Physiology

(1) Cardiovascular System.

- a) Structure & Properties of heart
- b) Cardiac Cycle.
- c) The regulation of heart's performance.
- d) Cardiac output.
- e) The arterial blood pressure.
- f) The physiology of vascular system.
- g) Lymphatic circulation.

(2) Muscular System:

- a) Types of muscles, types of muscle contractions, muscle work, motor units, group action of muscles, muscle spindle.
- b) Neuromuscular junction.
- b) Muscle architecture.
- c) Muscle action.
- d) Spasm, spasticity, twitch, muscle fatigue, tetani rigor motis
- e) Nerve & blood supply of muscles etc...

(3) Respiratory System:

- a) Functional anatomy
- b) Ventilation & control of ventilation
- c) Alveolar air
- d) Regulation of the breathing
- e) Pulmonary function test.

(4) Nervous System:

- a) Elementary neuroanatomy
- b) Neurons & Neuralgia
- c) Properties of nerve fibers synapse.
- d) Spinal cord.
- e) Cerebral cortex.
- f) Pyramidal & extra pyramidal system.
- g) The cerebellum.
- h) Automatic nervous system.
- i) Cerebrospinal fluid.
- j) Cranial nerves.

(5) Reproductive System:

- a) Male reproductive system.
- b) Female reproductive system.
- c) Menstrual cycle.
- d) Menopause.
- e) Fertilization & intra-uterine development.
- f) Birth.
- g) Post natal growth & development.

Unit III : Pharmacology

Discussion in details of the following groups of drug. Their effects, uses, side effects and dosage.

- 1. Drugs used in pain.
- 2. Local anesthetics
- 3. Steroids
- 4. Muscle relaxants.
- 5. Drug acting upon central nervous systems & autonomic nervous system.
- 6. Tropically acting drugs.

Unit IV: Pathology

- 1. General Pathology (Cell Injury, Inflammation, repair, immune system)
- 2. Musculoskeletal system.
 - a) Bones:

- Hereditary & Metabolic diseases.
(Osteoporosis, Rickets, Osteomalacia, Osteitis fibrosa cystica, Renal Osteodystrophy)
- Infections:
(Osteomyelitis, tuberculosis)
- b) Joints:
 - Degenerative joint disease.
 - Bursitis.
- c) Skeletal muscles
(Muscle atrophy, Myositis, Muscular dystrophy, Myasthenia gravis)

3. Nervous system

- a) Infection (meningitis, encephalitis)
- b) Vascular diseases (Ischemic encephalopathy, Cerebral infarction, Intracranial hemorrhage)
- c) Degenerative disease (Alzheimer's disease, Huntington's disease, Parkinsonism, Motor neuron disease)
- d) Demyelinating disease (Multiple sclerosis)
- e) The peripheral nervous system

(Peripheral neuropathy, acute Idiopathic polyneuropathy, Diabetic neuropathy)

Unit V: Exercise Physiology & Nutrition

Section: A

Introduction: History of Exercise physiology-Early Exercise Physiologists, the Harvard Fatigue Laboratory, The Scandinavian Influence, Contemporary Exercise Physiologists.

- Bioenergetics
- Endurance Training
- Energy Expenditure at rest and during physical activity-

Energy, Work & Power

Measurement of Energy CCSI of Exercise. Direct Calorimetry, Indirect Calorimetry, Net O₂ cost of Aerobic and Anaerobic exercise, the concept of the MET, Ancillary considerations in Measuring Energy Expenditure, Body size and energy cost. Measuring efficiencies on a bicycle, ergometer and treadmill. Measurement of energy cost for 100M, 400M dash.

Measurement of energy cost using telemetry.

Muscle Physiology: Overview, Mechanism of Muscular Contraction.

Section B:

Respiratory response to Exercise:

Ventilation at rest and during exercise. Ventilation and the anaerobic

Threshold, Alveolar Ventilation and Dead Space, Other Lung volumes and capacities, Oxygen Cost of breathing, second wind, Stitch in side.

Cardiovascular responses to Exercise:

Summary of the cardiovascular systemic physiology covered during previous year.

Cardiovascular aspects of exercise: Control and regulation of heart and circulation at rest and during exercise.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1	2	1	1	1	1	1	1	1	1
CO2	3	2	3	1	1	1	1	2	1	2	1	1
CO3	2	1	1	1	1	1	3	1	1	1	1	1
CO4	3	2	1	1	1	1	1	1	2	1	1	1
CO5	2	3	3	1	1	2	1	1	1	1	1	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT
Programme Code	MP690
Course name	Review of basic therapeutics
Course Code	MP102
Year/Semester	I st year

Course Outcomes

CO1: To memorize definition of physiotherapy and various rehabilitation and modern concepts in sports physiotherapy like dynamic exercises, plyometric exercises, manipulative techniques etc. MMT, reeducation and strengthening, gait analysis & training, PNF, aquatic therapy etc.

CO2: To discuss various physiotherapy techniques for enhancing Neuromuscular control, various methods of conditioning & fitness enhancement, exercise prescription, massage and hydrotherapy etc.

CO3: To apply various electro therapy modalities and knowing of the principles underlying the application in different conditions and calculate the specific usage in terms of low frequency, medium frequency & high frequency currents.

CO4: To prioritize the principles of biomechanics and pathomechanics of each joint complexes of human body. Also to distinguish about various gaits and its analysis in terms of abnormal postures & gait.

CO5: To evaluate the principles of Bio engineering-its preparation, application & trainings both orthotics & prosthetic.

Unit –I

Definition of physiotherapy, Goals & objectives of Physiotherapy in Clinical Evaluation
Phase of management of injured person. (Multidisciplinary Approach)

Rehabilitations and modern concepts in sports Physiotherapy.

Definition, details of effects and uses of therapeutic Exercises.

- a) Dynamic Exercises
- b) Plyometric Exercises
- c) Isokinetic Exercises
- d) Manipulative Techniques
- e) Kinetic Chain Exercise

Mobilization

- a) Factors affecting the joint range of motion prevention of stiffness, methods of joint mobilization.
- b) Testing for tightness and contracture of soft-tissue structure.
- c) Techniques of mobilizing the various joints of the body
- d) Introduction to manual therapy techniques, manual joint therapy, traction, basic principles of manipulation for various disorders of the spine and extremities.

1. Review of the following techniques.

- a) Assessment techniques like MMT & Goniometry
- b) Re-education and strengthening.
- c) Balance and Co-ordination exercise
- d) Gait analysis and training (both normal & pathological gait)
- e) Posture
- f) PNF
- g) Traction

2. Strengthening

Types of Muscle Contractions and Muscle work, Strength of Muscle Contraction in terms of Motor units, group action of Muscles and its implication in designing an exercise program.

- a. Cause of Muscle weakness. Prevention of disuse atrophy, Principles of treatment to increase muscle strength and function.
- b. Techniques of strengthening with respect to regional consideration.
- c. Various methods of progressive resisted exercise.
- d. Aquatic therapy

Unit-II

Physiotherapy for Enhancing Neuromuscular Control

- h) Neuromuscular control, methods for improving neuromuscular control, proprioception and kinesthetic sensation following different injuries.
- i) Principles and application of neuromuscular facilitation techniques including PNF.
- j) Protective equipment.

Methods of conditioning and fitness enhancement

Regional Exercise prescription

- (a) Therapeutic Exercise for Shoulder, elbow, wrist and Hand injuries.
- (b) Therapeutic Exercise for hip and thigh, Knee, foot and ankle injuries.
- (c) Therapeutic Exercise for Spinal Problem.

Massage

Historical development, definition and classification of massage techniques, Physiological effects of massage, description of the techniques of classical massage. Physiological basis of massage, therapeutic applications and contraindication of massage.

Hydrotherapy:

History & introduction, effects of simple baths, raising temperature baths, baths with additives, Aromatic baths, Mineral baths, Physical baths, Hydroelectric baths, stammer baths, whirl pool bath, showers and steam showers, aquatic exercises.

Unit-III

Electro Therapy

1. Principles underlying the application of following modalities with reference to their production, biophysical and therapeutic effects, indications and contraindications and the specific uses in sports physiotherapy.
 - a) Infrared rays, paraffin wax, bath steam bath, moist heat pack fluid therapy, Mud bath and pelloids.
 - b) High frequency current: SWD, MWD, Ultrasound, pulsed electromagnetic energy. Physiological effects, use of Cold therapy in acute phase, rehabilitative phase, preventive phase of athletic injury, Methods of application, indications and contraindications.

2. Principles underlying the application of following modalities with reference to their production, biophysical and therapeutic effects, indications and contraindications and the specific uses in Physiotherapy.
 - a) Low frequency current: Direct current, modified Direct Current, Alternative current, Diadynamic Current, Iontophoresis TENS, High Voltage, Pulsed Galvanic Stimulation.
 - b) Medium Frequency Current: IFT, Russian Currents, Radiations: LASER Recent Advancement in Electrotherapy (electro therapy in wound management), Electro-diagnosis and its implications to Physiotherapy.

Unit-IV

Biomechanics & Pathomechanics

Section A

1. Introduction to kinesiology and Biomechanics.
2. Principle of Biomechanics, Nature and importance of Biomechanics in Physiotherapy.

Section B

3. Introduction to biomechanical analysis of human motion. Analytical tools and techniques-Isokinetic dynamometer, Kinesiological EMG, Electronic goniometer, force platform, video therapy.

Section C

4. Biomechanics of shoulder and shoulder girdle motion, elbow motion, wrist and hand motion & their pathomechanics.
5. Biomechanics of pelvic motion, hip motion, Knee motion, Ankle & Foot motion & pathomechanics.
6. Biomechanics of Spinal motion & Pathomechanics.

Section D

7. Gait analysis, posture & Abnormal Posture & Gait.

Unit-V

Bio Engineering

1. Principles of orthotics type, indications, contra indications, Assessment (Check Out), uses and fitting –region wise.
2. Fabrication of simple Splints and self help devices for upper, lower extremity and spine-indications and applications.

3. Principles of prosthetic –type, indications, contraindications, assessment (Check Out), use and fitting –region wise.
4. Preparation, Application & training.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	3	1	2	3	1	1	3	2	1
CO2	1	1	2	2	1	3	1	1	2	1	1	1
CO3	1	1	1	1	3	1	1	1	1	1	3	1
CO4	2	1	1	2	1	1	1	1	2	2	1	1
CO5	1	1	1	1	1	1	1	1	1	2	3	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT
Programme Code	M9690
Course name	Advanced Therapeutics & Diagnosis
Course Code	MP103
Year/Semester	I st year

Course Outcomes

CO1: To describe and memorize basic Manual Therapy techniques-history, classification for Cyriax, Maitland & Mulligan, Butler etc.

CO2: To interpret Muscle energy technique, positional stretch, myofascial release-its concept and application.

CO3: To illustrate importance of Lasers in various conditions .

CO4: To analyze the importance and effects of microcurrent and biofeedback—the concepts, principles, indications, contraindication and its application in different conditions.

CO5: To evaluate nerve conduction studies and EMG along with the importance of normal & abnormal action potentials in diagnosing conditions.

Unit I :

Manual Therapy: Introduction, History, Basic Classification, Assessment for manipulation,

discussion in brief about the concepts of mobilization like Cyriax, Maitland & Mulligan and Butler in mobilization of joints & nerves. Methodology in general with examples, Joints/ nerves (Manipulation studies & work according to their specialization).

Unit II :

Muscle Energy techniques and Positional stretch: The basic concept and application of these techniques.

Myofascial Release: Concept & brief discussion of its application techniques.

Unit-III

LASERS: Production, types, effects, application, indications & contraindications.

Unit-IV

Micro currents: Concept, Indications, Contraindications & Application.

Biofeed back: Principles, effects, uses and contraindications.

Unit-V

Nerve conduction studies and EMG: Normal & abnormal action potentials, its recording protocols, analysis & apparatus.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	2	1	2	1	1	2	1	3	1
CO2	2	1	1	1	2	1	1	2	1	1	1	1
CO3	1	1	1	1	1	1	1	1	1	2	2	1
CO4	1	1	1	1	3	1	1	1	1	2	2	1
CO5	1	1	1	1	1	1	1	3	1	1	1	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT
Programme Code	M9690
Course Name	Reserch Methodology, Biostatics, Education Technology And Computer
Course Code	MP104
Year/Sem	1 nd Year

Course Outcome:

C01: To describe the research methodology's formulas and methods like standard deviation, data collection methods, central tendency,

correlation, regression, sampling testing, hypothesis, data collection and test etc.

C02: To understand the moral and ethics in physiotherapy profession and rules and regulations of the association/council.

C03: To demonstrate the laws related to physiotherapy practice like medico legal aspect, practice, negligence, licensure workmen compensation and maintaining the medical register.

C04: To classify policies and procedure related to management of physiotherapy department like recruitment, interview, salary, working hours, leaves, referred policy, maintaining statistics, planning and design.

C05: To evaluate the concept of physiotherapy education technology, its aims, philosophy, trends and issues; concepts of teaching and learning, curriculum for physiotherapy, principles and methods of teaching, measurement and evaluation, guidance and counseling.

C06: to design the use of computer application in medical science and introduction of software and hardware of computer system.

Unit I:

Research Methodology

Introduction- Uses of statistical methods & standard deviation.

Methods of collection, classification, tabulation & presentation of data.

Central tendency-

Mean, Median, Mode & standard deviation

Correlation & Regression:-

Karl Pearson's correlation method

Rank correlation method

Regression & correlation.

Sampling & hypothesis testing

Data collection

Types of sampling

Random Sampling

T. Test, Z. Test, Chi square testing.

Unit II:

Physiotherapy Ethics

1. Morals and ethics
2. Ethical issue in physical therapy
3. Rules and regulation of association/ council

Unit III:

Physical Therapy & Law: Medicolegal aspect of physical therapy, liability, negligence and practice, licensure workmen compensation & maintaining the medical register.

Unit IV:

Physiotherapy Department Management.

1. Policies and procedures.
2. Recruitment, interview, probation, salary, hours of working, leaves facilities, retirement, referred policy.
3. Maintenance of records equipments, statistics.
4. Planning, design construction, expansion plan.

Unit V :

Physiotherapy Education Technology

- i) Aims, philosophy and trends and issues:-
 - a) Educational aims.
 - b) Agencies of education.
 - c) Formal and informal education
 - d) Major philosophies of education.
(naturalism, idealism, pragmatism & realism)
 - e) Modern and contemporary philosophies of educations.

Physiotherapy of education in India (past, present and future) current issues and trends in educations.

- ii) Concepts of teaching and learning.
 - i) Theories of teaching.

- ii) Relationship between teaching and learning.
- iii) Psychology of education.
- iv) Dynamics of behavior, motivational process of learning perception, individual differences, intelligence personality.
- iii) Curriculum
 - i) Curriculum committee.
 - ii) Development of a curriculum for physiotherapy.
 - iii) Types of Curriculum
 - iv) Placing, courses placement, time allotment
 - v) Correlation of therapy and practice.
 - vi) Hospital and community areas for clinical instructions.
 - vii) Clinical assignments.
- iv) Principles and methods of teaching.
 - i) Strategies of teaching.
 - ii) Planning of teaching.
 - iii) Organization, writing lesson plan.
 - iv) A.V. aids.
 - v) Teaching methods – socialized methods
- v) Measurement and evaluation
 - i) Nature of measurement of Educations, meaning, process, personnel,
 - Standardized, none standardized.
 - ii) Standardized tools, important tests of intelligence, aptitude, instrument,
 - iii) Personality, achievements and status scale.
 - iv) Programme evaluation.
 - v) Cumulative evaluation.
- vi) Guidance and counseling
 - i) Philosophy, principles, concepts, guidance & counseling services.

- ii) Faculty development and development of personnel for physiotherapy services.

Unit VI:

Computer (Non University Examination)

1. Introduction of software and hardware.
2. M.S. Office, Dos.
3. Application computer in medical sciences.

CO-PO Mapping

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	1	1	1	1	1	1	1	1	3
CO2	1	1	1	1	1	1	1	1	1	1	1	2
CO3	1	1	1	1	1	1	1	1	1	1	1	2
CO4	1	1	1	1	1	1	1	1	1	1	1	2
CO5	1	1	1	1	1	1	1	1	1	1	1	2

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTOrthopaedics
Programme Code	M9501
Course Name	Orthopaedics in Physical Therapy
Course Code	MPO 201
Year/Semester	MPT Ortho II nd year

Course Outcomes

CO1: To describe Embryology and Anatomy of the musculoskeletal system, Podiometry , Arthro-kinematics and Osteo-kinematics. Also to define PaediatricOrthopaedics conditions & their management and describe physiotherapy management of lumbo-sacral disorders , assessment of locomotor impairments and disability evaluation. Also to describe traumatic orthopaedics ,UL, LL and spinal fractures with their medical, surgical and PT management.

CO2 :To discuss assessment of posture , role of physiotherapy in scoliosis unit, Injuries of brachial plexus , peripheral nerve with their PT management. Also to discuss principles of amputation surgery and their prosthetic management , check-out and training UL & LL. Also to explain about PT management of UL & LL fractures, after replacement of arthroplasties of shoulder, elbow, hip, knee and ankle , and PT management of cervical & thoracic spine disorders.

CO3: To illustrate PT management of conditions affecting shoulder, elbow, hip, knee, ankle & foot and spinal , pelvic fractures and spinal cord injuries. Also to illustrate Autoimmune disorders affecting musculoskeletal system their PT management and PT management of vascular disorders.

CO4: To Explain advanced investigative procedures like CT, MRI scanning, principles of illizarov fixation & their PT management. Also to explain physiological effects of electrotherapeutic agents.

CO5: To evaluate General principles of Orthopaedic surgery, Arthrodesis, Osteotomy, Arthroplasty, Bone grafting, Internal and external fixations Etc .

CO6:To write about Nerve suturing and grafting. Wound debridement Orthopaedic implants

Unit I: Embryological development, Growth & maturation of musculoskeletal system, Anatomy and applied anatomy of musculoskeletal system, Physiology of musculoskeletal system. Applied biomechanics and pathomechanics of bones, joints & soft tissues

Unit II: Congenital malformations & deformities, Developmental disorders of bone, Infections of bone & joints Tumors of the musculoskeletal system, Neuro muscular disorders, Nerve injuries, Soft tissue injuries including burns, Spinal deformities.

Unit III: Metabolic and endocrine disorders, Degenerative joint disorders & arthritis, Regional conditions of upper, lower limb & spine, Amputation, III Fractures and Dislocations, Introduction to dislocation & recurrent dislocations of Joints, Fractures & dislocations of upper limb, lower Limb, Fractures & dislocations of spine & pelvis.

Unit V: General principles of Orthopaedic surgery, Arthrodesis, Osteotomy, Arthroplasty, Bone grafting, Internal and external fixations, Distraction and limb reconstruction Correction of

bone deformities and joint contractures. Tendon transfers.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3	2	1	1
CO2	2	1	3	1
CO3	2	1	3	2
CO4	1	1	1	1
CO5	2	3	3	2

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT Orthopaedics
Programme Code	M9501
Course Name	Vertebral disorders & Rehabilitation
Course Code	MPO 202
Year/Semester	MPT Ortho II nd year

Course Outcomes

CO1: To describe Anatomy and Biomechanics of vertebral column. Also to define Congenital disorders of vertebral column and vertebral deformities.

CO2 :To explain inflammatory disorders of vertebrae, vertebral joints & soft tissues etc and changes, changes of alignment of bone, joint of vertebral column.

CO3: To demonstrate low back pain, pain in vertebral column and stiffness disorders. Also to

illustrate cervical, thoracic, lumbar and sacral region.

CO4: To explain traumatic injuries of vertebral column ; general and regional injuries like soft tissue injuries, bone injuries (fractures & dislocation of spine), pelvic injuries. also to explain tightness and structural changes.

CO5: To assess spinal cord injuries, with their types, classification, pathology, level examination, management and rehabilitation.

CO6:To write about Orthopaedic surgeries, bioengineering appliances and supportive devices. To write pre and post operative rehabilitation.

Unit 1:Review of anatomy and biomechanics of vertebral column.Congenital disorders of vertebral column & vertebral deformities.

Unit II: Inflammatory disorders of vertebrae,vertebral joints & soft tissues etc.Disease of vertebral joints,segmental instability. Disorders of structural changes, changes of alignment of bone,joint of vertebral column.

Unit III: Low back pain,pain in vertebral column & stiffness disorders. Regional:- Cervical,Lumbar,Thoracic,Sacral.

Unit IV: Traumatic injuries of vertebral column:General& regional injuries.Soft tissue injuries,tightness,structural changes. Bone injuries(fracture & dislocation of spine) Pelvic injuries. Pelvic injuries.

Unit V: Spinal cord injuries Types,classification ,Pathology level, examination, Management & rehabilitation.

Unit VI: Orthopedic surgeries,Bio engineering appliances & support devices.Pre& post operative rehabilitation.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	2	3	1	1
CO2	2	3	1	1

CO3	1	3	1	1
CO4	2	3	1	1
CO5	1	3	1	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT Orthopaedics
Programme Code	M9501
Course Name	Hand Rehabilitation
Course Code	MPO 203
Year/Semester	MPT Ortho II nd year

Course Outcomes

CO1: To describe Anatomy of hand with bio & patho-mechanics of hand, functions of hand, motor and sensory organ. Also to describe assessment of hand.

CO2 :To classify hand injuries ; tendon injuries, tendinopathies, nerve injuries, neuropathies and hand fractures , joint & ligament injuries. Also to describe principles of hand rehabilitation and detailed aspects of various conditions.

CO3: To illustrate Rehabilitation in various hand conditions; Burns in hand, spastic hand, stiff hand , RA hand , hand in Hansen's disease, Dupuytren's contracture ,RSD , Compartment syndrome and Reynaud's phenomenon Etc.

CO4: To explain Rehabilitation following surgeries; tendon transfer & reconstruction, replantation surgeries. Also to explain Nerve graft, suture & neurotization surgeries and flaps skin grafts management following burns.

CO5: To evaluate sensory and functional re-education. Also to evaluate disability & compensation in hand injuries.

CO6:To write about correction of deformities of hand ;Orthoses for hand and prosthetic hand.

Unit I:- Basic Review of hand Anatomy of hand with bio and pathomechanics of hand. Functions of hand - motor & sensory organ. Assessment of hand.

Unit II:- Classification of hand injuries. Principles of hand rehabilitation. Detailed aspects of Various conditions. Tendon injuries and tendinopathies. Nerve injuries and Neuropathies. Crush injuries. Hand Fractures , joint and ligaments injuries.

Unit III:- Rehabilitation in various hand conditions. Burns in hand ,Spastic hand ,Stiff hand , RA Hand, Hand in Hansen's Disease ,Dupuytren's Contracture Reynaud's phenomena, RSD, Compartment syndrome, Hand Edema and Phantom hand pain.

Unit IV:- Rehabilitation Followings Surgeries, Tendon Transfer and reconstruction, replantation surgery, Nerve graft, suture and neurotization surgeries , Flaps and skin grafts management following burns.

Unit V:- Sensory re-education, Functional re-education and Disability evaluation and

compensation in hand injuries.

Unit VI: Sensory re-education, Functional re-education and Disability evaluation and compensation in hand injuries.

period of immobilization & post immobilization rehabilitation.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	2	1	3	1
CO2	2	1	3	1
CO3	2	1	3	1
CO4	3	1	3	1
CO5	3	1	3	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTNEUROLOGY
Programme Code	M9601
Course Name	PHYSICAL THERAPY IN NEUROLOGICAL DISORDERS
Course Code	MPTN201
Year/Semester	2 ND

Course Outcomes-

CO1: Describe the orientation and introduction, physical basis, normal result and common abnormal responses

of various investigative procedures.

CO2: List the testing of cranial nerves. Describe the disorders of cranial nerves and rehabilitation protocol.

CO3: List the disorders of cerebral circulation and disorders of higher cerebral cortical function. Describe the classification, causes, pathophysiology, clinical features, complication, management and rehabilitation.

CO4: Define the demyelinating and also degenerative diseases of the nervous system. Describe the classification, causes, pathophysiology, clinical features, complication, management and rehabilitation.

CO5: List the movement disorders and disorders of spinal cord and cauda equine. Describe the classification, causes, pathophysiology, clinical features, complication, management and rehabilitation.

CO6: List the nutrition disorders, peripheral nerve disorders and disorders of autonomic nervous system. Describe the classification, causes, pathophysiology, clinical features, complication, management and rehabilitation.

SYLLABUS:

UNIT 1: Investigations:

Orientation and Introduction, Physical basis, normal result & common abnormal responses, (in Brief)

1. Skull X ray
2. Computerized Tomography
3. Magnetic Resonance Imaging
4. Intracranial Pressure monitoring
5. Evoked Potentials
6. EMG/ NCV
7. Lumbar puncture
8. Common Laboratory tests in Neurological disorders

UNIT2: Cranial nerves

1. Testing of cranial nerves.
2. Disorders of cranial nerves, cranial neuropathy.
3. Rehabilitation protocol.

UNIT 3:

3.1 Disorders of the Cerebral Circulation.

Classification, cause, pathophysiology, clinical features, complication, management & Rehabilitation

1 Epidemiology of stroke. 2. Causes, types, pathophysiology.

3. Clinical features & investigation 4. Herpes simplex

5. Chorea 7. Tuberculosis

8. Transverse myelitis 9. Poliomyelitis

3.2: Disorders of higher cerebral cortical function

1. Disorders of different lobes:

a. frontal lobes b. Temporal lobes c. Parietal lobes

d. Occipital lobes e. Sub-cortical lesions

UNIT4:

4.1: Classification of demyelinating diseases.

Multiple Sclerosis.

Diffuse Sclerosis.

4.2: Degenerative disease of the spinal cord & cerebellum

1. All types of ataxia.
2. Motor neurone disease.
3. Spinal muscular atrophies

UNIT 5:

5.1 Movement disorders

1. Akinetic-rigidity syndromes disorders.
2. Dyskinesias disorders.

5.2: Degenerative disease of the spinal cord & cerebellum

1. All types of ataxia.
2. Motor neurone disease.
3. Spinal muscular atrophies

5.3: Disorders of the spinal cord and Cauda equine

1. Acute traumatic injuries of the spinal cord.
2. Haematomyelia & acute central cervical cord injuries.
3. Slow progressive compression of the spinal cord.
4. Syringomyelia
5. Ischemia & infarction of the spinal cord & cauda equine .
6. Spina bifida.

UNIT 6:

6.1: Deficiency & nutrition disorders

1. Deficiency of vitamins & related disorders.
2. Other nutritional neuropathies.

6.2: Disorders of peripheral nerves.

1. Clinical diagnosis of peripheral neuropathy.
2. All type of level of peripheral neuropathy & brachial plexus.
3. Causalgia
4. Reflex sympathetic dystrophy.
5. Peripheral nerve tumours & irradiation neuropathy.
6. Traumatic, compressive & ischaemic neuropathy
7. Spinal radiculitis & radiculopathy.

8. Hereditary motor & sensory neuropathy (HMSN) (type 1, 2, 4 & 5)

9. Acute and chronic idiopathic polyneuritis

6.3: Autonomic Nervous disorders

Disorders of autonomic function after lesion of the spinal cord.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	2	2	1	1
CO2	1	2	1	1
CO3	1	2	1	1
CO4	1	2	1	1
CO5	3	2	1	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT NEUROLOGY
Programme Code	M9601
Course Name	NEUROLOGICAL REHABILITATION
Course Code	MPTN202
Year/Semester	2 ND

CO 1: Describe techniques, types of skull, brain and spine surgery and its complication.Design pre and postoperative physiotherapy assessment and treatment.

CO2: Describe traumatic brain injury.Design pre and post operative physiotherapy assessment and treatment.

CO3: Define tumours.Describe pathophysiology classifications ,effects of mass lesions, examination, management, pre and post operative rehabilitative protocol.

CO4: Define decompression surgery of spinal cord describe disc operation pre and post operativephysiotherapy assessment and treatment physiotherapy assessment and treatment.

CO5: Describe operative procedures of peripheral nerves. Design pre and post operative physiotherapy assessment and treatment

CO6: Define and classify tumours of cranial bones,meningiomas, tumours of spinal cord, intracranial tumours.Design pre and post operative physiotherapy assessment and treatment.

UNIT1: Techniques,types of skull,brain,spine,surgerY& its complication.Pre& post Physiotherapy

assessment, treatment.

Unit-2: Cranio-cerebral injury (Head & brain injury):

- a) Closed skull fractures.
- b) Haematomas, epidural, subdural, intracerebral.
- c) Open cranio -cerebral injuries.
- d) Re-construction operation in head injuries.
- e) Epidemiology, Pathophysiology, symptoms, signs, investigations, management, pre & post physiotherapy complication.

Unit-3: Intracranial Tumours

Pathophysiology, classifications, effects of mass lesions, symptoms & signs, examination, management pre & post operative rehabilitative protocol.

UNIT 4: Decompression surgery of spinal cord.

- a. Disc operation (cervical, lumbar)
- b. Stenosis
- c. Oedema, Abscess
- d. Lumbar puncture.

UNIT 5: Peripheral nerves:

- a. De-compression
- b. Nerve-suture
- c. Nerve grafting

UNIT 6: Pathophysiology, classifications, effects of mass lesions, symptoms & signs, examination,

management pre & post operative rehabilitative protocol.

1. Tumours of cranial bones.
2. Meningiomas
3. Tumours in spinal cord.
4. Intra cranial tumours.
5. Other conditions related to raised intra cranial pressure.
 - a. Hydrocephalus
 - b. Intracranial abscess.
 - c. Central oedema.
6. Vascular disease of the brain.
 - a. Aneurysms
 - b. Thrombosis

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
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CO1	1	2	1	1
CO2	1	2	1	1
CO3	1	2	1	1
CO4	3	2	1	1
CO5	3	2	1	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT NEUROLOGY
Programme Code	M9601
Course Name	PHYSICAL THERAPY IN PAEDIATRIC NEUROLOGY
Course Code	MPTN203
Year/Semester	2 ND

CO1: Define general Developmental sequence of normal child. Describe development in various period of growth, postnatal growth pattern, types of body

build, physical examination of a child.

CO2: List the normal nutritional requirement of a child and infant feeding. Describe prevention of some nutritional disorders, Nutritional deficiency diseases and immunization.

CO3: Define Cerebral Palsy. List the types, aetiology and clinical features. Design the assessment and rehabilitation of various types of cerebral palsies.

CO4: Define the muscular disorders of childhood. List the types of muscular dystrophies and myopathies of childhood. Design the assessment and rehabilitation of muscular disorders of childhood.

CO5: Define epilepsy. List the classification, aetiology, pathology and clinical features of various types of seizures.

CO6: Describe the neurological affection of childhood. Describe the aetiology, clinical features, assessment and rehabilitation in early childhood.

Unit-1: General Developmental sequence of normal child:

Weight,height& circumference measurements related to age in normal child
development milestones,

Neonatal reflexes,factors influencing growth & development various period of growth
,post natal

Growth pattern,types of body build,physical examination of a child.

Unit-2: Nutrition % Immunization:

Normal nutritional requirement of a child,infant feeding prevention of some nutritional
disorders,Nutritional deficiency diseases,immunization(salk&sabindpt against some common
viral
diseases)

Unit-3: Cerebral Palsy:

Types,aetiology,clinicalfeatures,management& rehabilitation of various types of cerebral
palsies.

Unit-4: Neurological Affection of Childhood:

Poliomyelitis, spinal bifida hydrocephalus, encephalitis, aetiology, clinical features &
rehabilitation peripheral nerve injuries in early childhood.

Unit-5: Muscular disorders:

Types of muscular dystrophies & myopathies of childhood.

The floppy infant syndrome.

Unit-6: Seizures epilepsy of childhood.**CO-PO Mapping**

Course	PSO1	PSO2	PSO3	PSO4
CO1	2	3	1	1
CO2				1
CO3	3	3	2	1
CO4	3	1	3	1
CO5	3	2	3	1
CO6	2	1	3	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTCARDIO-PULMONARY
Programme Code	M9701
Course Name	MEDICAL AND SURGICAL MANAGEMENT OF DISORDERS OF THE CARDIOPULMONARY SYSTEM
Course Code	MPC 201
Year/Sem	2 nd Year

Course Outcome:

C01: To describe the applied anatomy and physiology of cardio-thoracic and respiratory system also the mechanism of ventilation.

C02: To understand the radiological anatomy for clinical assessment, ECG, echo, PFT, ABG, exercise ECG testing, cardiac catheterization, stress testing and medical management of disorders of the cardiac system.

C03: To demonstrate the symptoms assessment of the heart disease like cardiac rate, rhythm and conduction; cardiac arrest, shock, RHD, CHD, diseases of heart valves, IHD, hypertension, heart disease in pregnancy, PVD, cardiomyopathy and degenerative arterial disease etc.

C04: To classify the disease conditions related to the pulmonary system like obstructive, restrictive and infections of pulmonary systems, interstitial pulmonary disease, vascular disease, respiratory failure, neuro muscular and skeletal disorders leading to pulmonary conditions.

C05: To evaluate the concept of various cardiothoracic surgery pre and post-operative management like open heart surgery, emergencies in CTVS, heart transplant, left ventricle assistive device, cardiopulmonary bypass and artificial airway removal etc.

Cardio respiratory science

UNIT I-

- Cardio-thoracic applied anatomy
- Respiratory and cardio vascular physiology
- Applied anatomy of the Respiratory muscles
- Mechanics of ventilation

UNIT II-

Radiological anatomy Clinical assessment, rationale of laboratory investigation and differential diagnosis, ECG, exercise ECG testing, Echo, Holter monitoring, imaging techniques, PFT and ABG analysis, cardiac catheterization, stress testing & medical management of disorders of the cardiac system.

UNIT III-

Assessment of symptoms of heartdisease, Disorders of cardiac rate,,rhythm &conduction, Cardiac arrest & cardiacfailure, Shock, Rheumatic heartdisease, Congenital heartdisease, Diseases of the heartvalves, Infectiveendocarditis, Ischaemic heartdisease, Hypertension,hypotension, Diseases ofpericardium, Heart diseases inpregnancy, Inflammatory & degenerative arterial diseases, Peripoheral vascular diseases, Cardiomyopathy, CPR.

UNIT IV-**Pulmonology**

Obstructive pulmonarydiseases, Restrictive pulmonarydiseases, Infections of pulmonary syetem, Interstitial,infiltrative & inflammatory pulmonary diseases, Pulmonary vascular diseases, Diseases ofpleura, Respiratoryfailure, Neuromuscular & skeletal disorders leading to global alveolar hypoventilation: Myopathies,spinal muscular atrophies,poliomyelitis,motor neuron diseases,chest deformitiesetc.

UNIT V-**CARDIOTHORACIC SURGERY**

This course provides information about surgical management for the relevant conditions of the above explained, their indication, contraindications for the surgery,and precaution after surgery.Also includes-

Closed V/S open heartsurgery, Incisions, Preoperative and Postoperative assessment and monitoring of the patients(ABG,ECG,radiographs,PFT,Labsetc), Emergencies inCTVS, Hearttransplant, Left ventricular assistivedevices, Procedures on sternum, Chest wall,Diaphragm, Mediastinum, Oesophagus, Cardionpulmonary bypass, Artificial airways-maintenance and removal.

Programme Name

MPTCARDIO-PULMONARY

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3		1	1
CO2	3		2	2
CO3	1	2	1	2
CO4	1	2	3	2
CO5	3	3	1	2

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Code	M9701
Course Name	PHYSIOTHERAPY MANAGEMENT AND PRINCIPLES OF CARDIOPULMONARY SYSTEM
Course Code	MPC202
Year/Sem	2 nd Year

Course Outcome:

C01: To describe the physiotherapy assessment, exercise testing and training programme.

C02: To understand the concepts and physiological effects of various equipment like ventilator, humidification, aerosol therapy and oxygen delivery devices in respiratory disease.

C03: To demonstrate the airway clearance techniques like postural drainage, FET, AD, ACBT, breathing exercise, percussion, shaking, vibration and biofeedback.

C04: To classify the role of physiotherapy in ICU and diabetes.

C05: To evaluate the concept of respiratory muscles training, ventilatory facilitation technique, mobilization and strengthening exercise.

C06: To design the prescription in Cardiac and Pulmonary rehabilitation.

UNIT I-

- Physiotherapy assessment.
- Exercise testing and exercise training

UNIT II-

- Ventilator : concepts ,physiological effects and complications
- Respiratory therapy equipments and adjuncts including : Humidification, Aerosol therapy and supplemental oxygen and oxygen delivery devices in respiratory diseases.

UNIT III-

- Airway clearance technique- Postural damage, Forced expiratory techniques, AD, ACBT
- Breathing exercises
- Percussion, shaking and vibration.
- Biofeedback.

UNIT IV-

Physiotherapy management in ICU

Diabetes and exercise.

UNIT V-

Respiratory muscle training

Ventilator facilitation techniques

Mobilization and exercise (strengthening, conditioning and endurance)

UNIT VI-

Principles and prescription of cardiac rehabilitation

Principles and prescription of pulmonary rehabilitation

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	1	3	3	2
CO2	1	1	2	1
CO3	1	3	3	2
CO4	2	3	3	2
CO5	1	1	3	1
CO6	2	2	3	3

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTCARDIO-PULMONARY
Programme Code	M9701
Course Name	CARDIO-PULMONARY REHABILITATION AND ACUTE CARDIO RESPIRATORY PRACTICE
Course Code	MPC 203
Year/Sem	2 nd Year

Course Outcome:

C01: To describe the exercise physiology, patient evaluation for exercise testing, principles of exercises testing, programme planning and implementation.

C02: To understand the phase wise protocols in MI, beneficial effects of aerobic exercise in coronary artery disease, various aspect of cardiac rehabilitation also to study the rehabilitation in PVD and cardiac transplantation.

C03: To demonstrate the respiratory muscle training in pediatric patient with cardio vascular disease, pulmonary conditions and study of interventions in various pulmonary conditions.

C04: To classify the goals and physiotherapy treatment in acute cardio respiratory conditions related to ICU patient, infection control in ICU, principles of oxygen administration and application of ICU equipment.

C05: To evaluate the concept of fitness training, health promotion, stress modifications by exercise and to understand the scientific basis for exercise programs.

C06: To design the fitness programme for cardiac patients with normal and abnormal activity and its effect on cardio vascular system, also to prescribe the exercises by exercise testing

using its principles, effect of exercises regime on body and nutrition intake.

Cardio Pulmonary Rehabilitation

UNIT I-

- Exercise physiology compared with abnormal exercise physiology
- Patient evaluation, low level exercise testing, maximal, exercise testing
- Programme planning and implementation – principles
- Mobilization

UNIT II-

Various protocols, phase wise, early, late and long term process in MI, Beneficial effects of aerobic exercise for patients with coronary artery disease, Detailed study of various aspects of cardiac rehabilitation, Peripheral vascular diseases, Cardiac transplantation, Trauma to the chest

UNIT III-

Paediatric cardio vascular problem, common pulmonary disease, including assessment and management, details study of various conditions (obstructive, restrictive, surgical conditions) patient intervention, pediatric pulmonary problems, respiratory muscle training, tumours of the heart.

UNIT IV-

Goals and general basics of treatment, specialized expertise ICU physiotherapy, general clinical aspects of management of ICU patients, importance of team work and infection control, ICU management of primary cardiopulmonary dysfunction, principles and applications of ICU equipments, oxygen administration, principles, techniques and CPR.

UNIT V-

Fitness training and health promotion

Fitness, definition, aspects and parameters for testing, scientific basis for exercise programs and stress modifications by exercise.

UNIT VI-

Fitness for cardiac patients normal and abnormal cardiac activity and effects on cardiovascular system, exercise testing- principles of testing and prescription for individuals.

Effects of various exercise regimen on body, nutrition and fitness.

Program Name

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CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3	1	2	3
CO2	1	1	3	2
CO3	1	1	3	2
CO4	1	3	3	2
CO5	1	1	3	1
CO6	1	2	2	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT SPORTS
Programme Code	M9401
Course name	Traumatology:Orthopedic & community medicine—Physical Therapy
Course Code	MPS201

Year/Semester	II nd year
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Course Outcomes

CO1: To enumerate the assessment principles of spine, hip & thigh, knee & leg, foot & ankle, shoulder & arm, elbow & forearm, wrist & hand in sports person.

CO2: To understand common back problems & injuries in sports person.

CO3: To illustrate lower limb problems & injuries common in sports person.

CO4: To analyze upper limb problems & injuries common in sports person.

CO5: To evaluate common fractures & dislocation in sports person.

CO6: To plan basic diagnosis and management of skin condition of athletes, female specific problems and common diseases like common cold, dysentery, amoebiasis, streptococcal ulcers etc.

UNIT I-

Assessment Principle : detailed physical assessment of spine, hip and thigh, knee and leg, foot and ankle, shoulder, arm, elbow, and forearm, wrist and hand.

UNIT II

Common Back Problems and Injuries: PIVD, spondylosis, spondylolisthesis, spinal stenosis, postural strain, back injuries in sports, ankylosing spondylitis, scoliosis, whiplash, cervical spine etc

UNIT III

Hip and Thigh Problems and Injuries – Perthes Disease, Coxa vara, ligament and

muscle injuries in sports, irritable hip, arthritis, congenital dislocation of hip etc.

Knee and Leg Problems And Injuries – Arthritis, genu valgum and varum, meniscal injuries, ligament and muscle injuries, loose bodies, bursitis etc

Ankle and Foot Problems And Injuries– Pain in heel, pain behind heel, plantar fasciitis, Morton's neuralgia, pes planus, pes cavus, CTEV, muscle and ligament and injuries.

UNIT IV

Shoulder and arm problems and injuries: rotator cuff injuries, periarthritis, bursitis, painful arc syndrome.

Elbow and forearm injuries and problems: cubitus valgus and varus, arthritis, tennis and golfer's elbow and other injuries

Wrist and hand: Claw hand, Dupuytren's contracture, trigger finger, arthritis, De Quervain's disease, base ball finger etc.

UNIT V

Common fractures and dislocations: fractures and dislocations of upper limb, lower limb, spine and stress fractures.

UNIT VI

Diagnosis and management of skin conditions of athletes: fungal infections, boils, cellulites, sunburn etc

Female specific problem, spots, amenorrhea, injury to female reproductive tract, menstrual problems, eating disorders, osteoporosis etc.

Common diseases: common cold, fever, diarrhea, dysentery, amoebiasis, sore throat, stress ulcers, skin infections etc

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3	1	1	1
CO2	3		1	1
CO3	3	1		1
CO4	3		1	1
CO5	1	3	3	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT SPORTS
Programme Code	M9401
Course name	Fundamentals in sports
Course Code	MPS202
Year/Semester	II nd year

Course Outcomes

CO1: To define brief idea about some common sports terminology, methodology rules, equipments and infrastructure of sports like basket

ball, hockey, tennis, badminton, wrestling, boxing, track & field, volleyball etc.

CO2: To summarize physics in sports and its application like types of motion, distance, speed, velocity, angular motions, law of inertia, force and its characteristics, classification of force systems, levers & fluid mechanics etc.

CO3: To apply and illustrate biomechanics in different sporting events like running, throwing, swimming, jumping and also to analyze equipments.

CO4: To explain the importance of psychological aspects in sports, doping in sports and point out performance enhancing drugs.

CO5: To evaluate special aids in performance, to measure body composition, its analysis and its effects in sports and to rank protective equipments in sports.

Unit I : Brief idea about some common sports:

Terminology, methodology rules, equipments and infrastructure.

Cricket, football, hockey, badminton, tennis, table tennis, wrestling, boxing, track and field, gymnastics, volleyball, basketball, aquatic sports.

Unit II : Physics in sports :

types motions, distance, speed, velocity, angular motion, acceleration, inertia, mass, Newton's law of motion, force and its characteristics, classification of force systems, force couples composition and resolution of force system, function, projectile motion, levers and fluid mechanics.

Unit III : Biomechanics :

Biomechanics of running

Biomechanics of throwing

Biomechanics of swimming

Biomechanics of jumping

Introduction to analysis equipment

Unit IV :

Psychological aspects in sports .

Spirit and moral values , doping in sports and performance enhancing drugs.

Special aids in performance.

Unit V

Body composition, its analysis and effects of sports.

Protective equipments used in sports.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3	3	1	1
CO2	2	3	1	1
CO3	2	3	3	1
CO4	1	2	3	3
CO5	1	2	3	3

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTsports
Programme Code	M9401
Course name	Rehabilitation in sports
Course Code	MPS203
Year/Semester	II nd year

Course Outcomes

CO1: To describe physiological responses to exercise and its effects on metabolism,muscle

fatigue, respiratory & cardiovascular changes, second wind, electrolyte regulations during sports etc.

CO2: To summarize responses to injury in muscles, bones, ligaments and its effects of immobilization & detraining. Also to explain mechanical properties & injuries to articular cartilage.

CO3: To discover various prevention of injuries and its risk factors along with the strategies of injury prevention.

CO4: To analyze injury and managing sporting emergencies, onfield assessment, clinical assessment, principles of management etc.

CO5: To summarize various nutrition in sports based on the requirement of athletes, diet planning, pre-game meal, carbohydrates loading.

CO6: To design various trainings in sports like plyometrics and to generalize some injuries related to some common & popular sports along with their management like in football & soccer, track & field, aquatic sports, basketball & volleyball, gymnastics etc.

Unit I : Physiological Responses to exercise : Exercises effect on metabolism , muscle fatigue, respiratory and cardiovascular changes , second wind , electrolyte regulation during sports etc.

Unit II :- Response to injury: Muscle trauma, contusions, strains, and rupture, effects immobilization and detraining, bone trauma, ligament and tendon, injuries, structures, mechanical properties and injury to articular cartilage, relationship between injury and nervous tissue, DOMS.

Unit III :- Prevention of injuries: risk factors in sports(intrinsic and extrinsic) . strategies of injury prevention.

Unit IV :- Injury evaluation and management: sporting emergencies, on field assessment, clinical assessments, principles of management(acute management, remodeling and conditioning, maintenance of fitness and rehabilitation)

UNIT V :- Nutrition in sports :- Requirements of athletes, diet planning, needs of individuals sports, pre game meal, carbohydrate loading.

Unit VI :- Training in sports: Various techniques like plyometrics etc. it sports training.

– Some common injuries related to some common and popular sports and their management.

- | | |
|------------------------------------|--------------------|
| 1. Injuries in football and soccer | 2. Track and field |
| 3. Long distance running | 4. Aquatic sports |
| 5. Baseball and cricket | 6. hockey |
| 7. baseball and volleyball | 8. Table tennis |
| 9. Badminton and tennis | 10. Gymnastics |

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	1	2	3	1
CO2	3		1	1
CO3		3	3	1
CO4	1	3	3	1
CO5	1	2	3	1
CO6	1	3	3	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTPAEDIATRIC
Programme Code	M9410
Course Name	PHYSIOTHERAPY FOR PAEDIATRIC NEUROLOGICAL CONDITIONS
Course Code	MPTP 201
Year/Semester	2 ND

Course Outcomes-

CO1: Describe Neuro developmental assessment and developmental screening (Paediatric Coma Scale).
CO2: Define congenital peripheral nerve injury. Design the assessment and rehabilitation protocol.
CO3: List the growth and development of child and its disorders. Design the assessment and rehabilitation protocol.
CO4: List the various congenital injuries, syndromes and infections of central nervous system. Design the assessment and rehabilitation protocol.
CO5: Define progressive locomotor disorders. Design the assessment and rehabilitation protocol.
CO6: To integrate the role of various approaches in paediatric development

UNIT I

Embryology

Neonatal physiology

Neuro developmental assessment

Developmental Screening (Paediatric Coma Scale)

Clinical decision making for the management of paediatric conditions.

UNIT II

Peripheral nerve injury- Brachial Plexus Injury, Erb's palsy

UNIT III

Growth and development of child and its disorders.

- 1** Down's syndrome
- 2** Cerebral Palsy
- 3** Spina bifida including spinal dysraphism

Anterior Poliomyelitis and post Polio syndrome
Muscular Dystrophy

UNIT IV

Traumatic brain injury
Infections of CNS- Bacterial and Viral infections
Infantile Hemiplegia
Hydrocephalus

UNIT V

Assessment and management of progressive locomotor disorders – Neuropathic and Myopathic.

UNIT VI

- 1** Concepts and principles of various approaches

2	Bobath approach
3	Motor Relearning Program
4	Vojta approach
5	Sensory Integration
6	Advances in the management of following conditions – CP, Acquired brain injury, Spina bifida neuromuscular diseases.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3	2	2	2
CO2	2	1	1	2
CO3	3	1	3	1
CO4	2	3	2	1
CO5	3	2	1	2
CO6	1	3	3	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTPAEDIATRIC
Programme Code	M9410
Course Name	PHYSIOTHERAPY FOR PAEDIATRIC ORTHOPAEDIC CONDITIONS
Course Code	MPTP 202
Year/Semester	2 ND

Course Outcomes-

CO1: List the principles of laboratory investigation for differential diagnosis.
CO2: Describe the genetic basis of paediatric disorders and counselling

CO3: Describe the various congenital and acquired orthopaedic problems in children and its medical, surgical and physiotherapy management.
 CO4: Define JRA and Limb Deficiencies. Design the assessment and rehabilitation protocol.
 CO5: Describe amputation and congenital disorders of bones.
 CO6: Define the paediatric burn. List the Lund and Browder chart. Design the assessment and rehabilitation protocol.

UNIT I

Principles of laboratory investigation for differential diagnosis.

UNIT II

Genetic basis of paediatric disorders, counseling

UNIT III

Describe the various congenital and acquired orthopaedic problems in children and its medical, surgical and PT management.

UNIT IV

Management of Musculoskeletal Impairments: JRA, Limb Deficiencies,

UNIT V

Amputation, Osteogenesis imperfecta, Arthrogyposis multiplex congenital, Hemophilia,

UNIT IV

1. Management of congenital locomotor disorders including the prosthetic and orthotic management.

2. Sports and fitness in pediatrics.

The Burn unit.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	1	2	1	1
CO2	2	2	2	1
CO3	3	3	2	2
CO4	3	2	3	2
CO5	3	1	1	2
CO6	3	3	1	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTPAEDIATRIC
Programme Code	M9410
Course Name	PHYSIOTHERAPY FOR PAEDIATRIC CARDIO-RESPIRATORY CONDITIONS
Course Code	MPTP 203
Year/Semester	2 ND

Course Outcomes-

CO1: List the concepts and principles of various approaches.

CO2: Describe the clinical reasoning and clinical decision making.

CO3: Describe the various congenital and acquired cardiac diseases in children and its medical, surgical and physiotherapy management.

CO4: Describe the various respiratory problems and its medical, surgical and physiotherapy management.

CO5: List the neonatal care. Describe the management of high risk babies.

CO6: Describe the Intensive care management of high risk babies.

UNIT I

Concepts and principles of various approaches

Bobath approach

Motor Relearning Program

Vojta approach

Sensory Integration

UNIT II

Intensive care management of high risk babies.

Describe the various congenital and acquired cardiac diseases in children and its medical, surgical and PT management.

UNIT III

Describe the various respiratory problems and its medical, surgical and PT management.

Clinical symptomatology and Pathophysiology of cardiopulmonary disorders.

UNIT-IV

Pediatric surgeries and its post operative management.
CBR in pediatric conditions
Physical therapy in public schools.

UNIT V

Neonatal care; high risk babies and management

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	1	2	3	2
CO2	2	3	2	2
CO3	2	1	1	1
CO4	2	1	2	2
CO5	3	1	3	2
CO6	3	3	3	2

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPT Obstetrics and Gynaecology
Programme Code	M9690
Course Name	Medical & Surgical Gynaecology
Course Code	MPOG 201
Year/Sem	MPT II nd Year

Course Outcomes

CO1: To describe the Anatomy of Pelvis, PFM and Pelvic organs and reproductive tract .

CO2 :To discuss internal and external genitalia, physiology of female reproductive system & urinary and fecal continence, menstrual cycle and its integration. To describe anatomy and development of breast.

CO3: To List the Gynaecological infections and design the assessment and physiotherapy protocol.

CO4: To explain about infertility, menstrual abnormalities , contaception and family planning..

CO5: To evaluate urinary, bowel and anorectal dysfunction and its PT management.

CO6:To write about gynaecological problems in adolescents. also to write about gynaecological surgeries

Unit I: Review of Pelvic anatomy, types of pelvis, Pelvic floor muscles. Pelvic Organs, reproductive tract and abdominals.

Unit II: . Internal and external genitalia.Physiology of female reproductive system,Physiology of urinary and faecal continence,Menstrual cycle and its integration, Anatomy and development of Breast.

Unit III :Gynaecological infections,Pelvic inflammatory diseases. Cyst and new growth in reproductive system, Endometriosis, Polycystic ovarian syndrome. (PCOS) AND Pelvic pain.

Unit IV:Infertility,Menstrual abnormalities andContraception and family planning.

Unit V: Urogynaecology – Urinary dysfunction.Bowel and anorectal function and dysfunction.

Unit VI :Gynaecological surgeries, Puerperal sterilization.Abortion and its types.

Breast cancer its screening procedures.Mastectomy, Types of Prolapse.

Menopause and osteoporosis. Gynaecologic Problems in adolescent population.

Laproscopy and laser surgeries in Gynaecological condition. Hirsutism.

Incontinence scales. Gynaecologic problems in Female athletes

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3		2	1
CO2	3		2	1

CO3	1	3	2	1
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Programme Name	MPTObstetrics and Gynaecology			
Programme Code	M9690			
Course Name	Clinical Obstetrics			
Course Code	MPOG 202			
Year/Sem	MPT II nd Year			
CO4	3	2		1
CO5	2	2	3	1
CO6	3	1	2	1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

CO1 :To discuss developmental anatomy embryology in details. Also to describe physical, physiological and musculoskeletal changes during pregnancy, common complication & discomforts during pregnancy.

CO2: To illustrate PT in labour, breast feeding position and episiotomy and its PT management.

CO3: To explain about labour and types of assistive deliveries and caesarean section. Also explain gestational DM, PIH, eclampsia and water birth.

CO4: To evaluate puerperium & its physiological changes and diastasis recti.

CO5 :To write about breast milk and its advantages , common problem in breast feeding. Also to write about types of nipple and its problems

Unit I: Preconception assessment and diagnostic test.Developmental anatomy – Embryology in

detail.Diagnostic test during Pregnancy.Physical and Physiological changes during Pregnancy.Musculoskeletal changes during Pregnancy.Common complication and discomforts during Pregnancy.

Unit I: Preconception assessment and diagnostic test.Developmental anatomy – Embryology in detail.Diagnostic test during Pregnancy.Physical and Physiological changes during Pregnancy.Musculoskeletal changes during Pregnancy.Common complication and discomforts during Pregnancy.

Unit II: Stages and mechanism of labour.Complication in labour.

Unit III: Types of assisted deliveries.Caesarean section.High – risk Pregnancies.Gestation trophoblastic diseases.Intra Uterine Devices.Gestational Diabetes Melitus.Water birth.PIH and eclampsia.

Unit IV: Puerperium and its physiological changes. .Diastasis recti.

Unit V:Breast milk, its advantages.Common problem in Breast feeding.Types of nipples and its problems.Effect of altered tone of hip and trunk muscles over Pelvic floor muscles.

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	3	3		1
CO2	1	1	3	1
CO3	1	3		1
CO4	3	1		1
CO5	1	3		1

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated

Programme Name	MPTObstetrics and Gynaecology
Programme Code	M9690
Course Name	Clinical Obstetrics
Course Code	MPOG 203
Year/Sem	MPT II nd Year

CO1: To describe PFM grading, indication and contraindication, active PFM exercises and impairment of PFM and its PT management. Also to describe PT management of LAS, coccydenia etc, pre and post operative PT mangement of gynaecological surgeries.

CO2 :To discuss about Antenatal classes, swiss ball in pregnancy and electrotherapy modalities in obstetrics.

CO3: To illustrate PT in labour, breast feeding position and episiotomy and its PT management.

CO4: To explain perineal massage and breast engorgement and its PT management.

CO5: To evaluate aerobics and weight training in pregnancy.

CO6:To write about PT management of oedema in Pregnancy,GDM, High risk Pregnancy.Water birth and Management of common problem in Antenatal period, PT management of diastasis recti

Unit I : Internal evaluation of PFM Grading, indication and contraindication.Active Pelvic floor muscle exercises.Impairment of Pelvic floor muscles and its PT management.Levator ani syndrome, coccydynia and its PT management ,Vulvodynia, vaginismus, anismus and its PT management.Dyspareunia and its PT management.Pre and post Physiotherapy management for Gynaecological Surgeries.

Unit II: Antenatal classes.Swiss ball in Pregnancy.Electrotherapy modalities in obstetrics.

Unit III: Physiotherapy in labour.Breast feeding positions.Episiotomy and its PT management.

Unit IV: Perineal massage.Breast engorgement and its PT management.

Unit V:Aerobics.Weight training in Pregnancy.

Unit VI: Physiotherapy management of oedema in Pregnancy,GDM, High risk Pregnancy.Water birth and Management of common problem in Antenatal period.PT management of diastasis recti

CO-PO Mapping

Course	PSO1	PSO2	PSO3	PSO4
CO1	1	3	2	1
CO2	1	3	3	1
CO3	1	3	2	1
CO4	1	1	3	1
CO5	1	2	3	1
CO6	1	3	3	2

3: Highest Correlated, 2: Medium Correlated, 1: Lowest Correlated