

[KY 752]

MAY 2011

Sub. Code: 8152

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION

FIRST YEAR

(Common to all Branches)

New Regulations : For candidates admitted from 2010-2011 onwards

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code: 278152

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

Draw suitable diagrams where ever necessary

I. Elaborate on:

(2 x 20 = 40)

1. Describe the types of McKenzie's syndromes, use of repeated movements in McKenzie's method of spinal examination and explain the treatment principles for derangement syndrome.
2. Explain the physical parameters ,physiological effects & contraindications for faradic current stimulation. Enumerate the method of reeducation of pelvic floor muscles using faradic current.

II. Write notes on:

(10 x 6 = 60)

1. Principles of motor nerve conduction study.
2. Use of compression in oedema reduction.
3. Exercise induced muscle soreness.
4. General rules and guidelines for all mobilization treatments.
5. Types of EMG needle electrodes.
6. High voltage pulsed galvanic stimulation.
7. Continuous passive motion.
8. Trigger point release.
9. Method of ultrasound application.
10. Self stretching.

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION**FIRST YEAR****(Common to all Branches)****PAPER II – PHYSIOTHERAPEUTICS****Q.P. Code: 278152****Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :**

Pages (Max.)	Time (Max.)	Marks (Max.)
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- | | | | |
|---|----|---------|----|
| 1. Explain in details the effects of immobilization on musculoskeletal, cardio respiratory and nervous system. Rationale the application of various Physiotherapeutic modalities appropriate in managing the effects of immobilization. | 17 | 40 min. | 20 |
| 2. Explain in detail the neuro physiological principles and treatment principles of proprioceptive neuromuscular facilitation techniques. Describe about various proprioceptive neuromuscular facilitation techniques to improve stability. | 17 | 40 min. | 20 |

II. Write notes on :

- | | | | |
|---|---|---------|---|
| 1. Neural mobilization. | 4 | 10 min. | 6 |
| 2. Principles and application of Cyriax manipulation. | 4 | 10 min. | 6 |
| 3. Traditional electrophysiological techniques. | 4 | 10 min. | 6 |
| 4. Barrier concepts in manual therapy. | 4 | 10 min. | 6 |
| 5. EMG changes in peripheral neuropathies. | 4 | 10 min. | 6 |
| 6. F wave. | 4 | 10 min. | 6 |
| 7. Mobilization with impulse and without impulse. | 4 | 10 min. | 6 |
| 8. Clinical efficacy of electrical stimulation. | 4 | 10 min. | 6 |
| 9. Somato sensory evoked potentials and its uses. | 4 | 10 min. | 6 |
| 10. Positional release techniques. | 4 | 10 min. | 6 |

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION**FIRST YEAR****(Common to all Branches)****PAPER II – PHYSIOTHERAPEUTICS****Q.P. Code: 278152****Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :**

Pages (Max.)	Time (Max.)	Marks (Max.)
-----------------	----------------	-----------------

- | | | | |
|---|----|---------|----|
| 1. Classify various types of spinal traction. Describe the therapeutic effects of spinal traction. Explain in detail the procedure for positional traction for cervical and lumbar spine. | 17 | 40 min. | 20 |
| 2. Define electromyography. Explain in detail the various normal and abnormal spontaneous activities in electromyography. | 17 | 40 min. | 20 |

II. Write notes on :

- | | | | |
|---|---|---------|---|
| 1. Articular neurology. | 4 | 10 min. | 6 |
| 2. Eccentric strength training. | 4 | 10 min. | 6 |
| 3. Detail the various methods of ROM measurement for thoracic and lumbar spine. | 4 | 10 min. | 6 |
| 4. Properties of fast and slow pain fibers. | 4 | 10 min. | 6 |
| 5. Differentiate H reflex and F wave. | 4 | 10 min. | 6 |
| 6. Principles of muscle energy techniques. | 4 | 10 min. | 6 |
| 7. Perturbations in standing posture. | 4 | 10 min. | 6 |
| 8. Concave-convex rule and its importance in manipulation. | 4 | 10 min. | 6 |
| 9. Explain various methods of external compression techniques to reduce oedema. | 4 | 10 min. | 6 |
| 10. Myofacial massage. | 4 | 10 min. | 6 |

[LB 752]

OCTOBER 2012
MPT DEGREE EXAMS
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS
Q.P. Code : 278152

Sub. Code: 8152

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

Pages	Time	Marks
(Max.)	(Max.)	(Max.)

- | | | | |
|---|----|----|----|
| 1. Define Pain. Describe in detail the types of pain, pain assessment, neurophysiologic explanations of pain control and the evidence based clinical application of electrotherapeutic modalities in pain management. | 17 | 40 | 20 |
| 2. Describe in detail the principles, biomechanics, normal responses, sensitizing tests, application methods, indications and variations of the base tests of neural tension testing. | 17 | 40 | 20 |

II. Write notes on :

- | | | | |
|--|---|----|---|
| 1. Aquatic exercises. | 4 | 10 | 6 |
| 2. Abnormal spontaneous motor unit action potentials. | 4 | 10 | 6 |
| 3. Advantages, disadvantages and application techniques of compression bandage. | 4 | 10 | 6 |
| 3. Principles and application of trigger point release for trapezius muscle dysfunction. | 4 | 10 | 6 |
| 5. Kinesiological electromyography. | 4 | 10 | 6 |
| 6. Thermal and Non-thermal effects of therapeutic ultrasound. | 4 | 10 | 6 |
| 7. Sensory nerve conduction velocity testing. | 4 | 10 | 6 |
| 8. Methods of aerobic training | 4 | 10 | 6 |
| 9. Evidence-Based balance exercise programs | 4 | 10 | 6 |
| 10. Combination therapy | 4 | 10 | 6 |

[LC 752]

APRIL 2013

Sub. Code: 8152

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION

FIRST YEAR

(Common to all Branches)

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code: 278152

Time: Three Hours

Maximum: 100 marks

Answer All questions

I. Elaborate on:

(2 x 20 = 40)

1. Phases of healing process and the guidelines, indications, contraindications for using therapeutic modalities.
2. The principles, indications, contraindications and method of application of Butler's neural mobilization technique for the upper limbs.

II. Write notes on:

(10 x 6 = 60)

1. Types of resistance exercise.
2. Evidence based clinical application of stretching.
3. Variations of Muscle Energy Technique.
4. Balance training.
5. Physiological and technical variables affecting the nerve conduction study.
6. Properties of Water and its clinical significance.
7. Single-Fibre electromyography.
8. Russian Currents.
9. Biomechanical principles in Manual therapy.
10. Kinesiological EMG

[LD 752]

OCTOBER 2013

Sub. Code: 8152

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION

FIRST YEAR

(Common to all Branches)

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code: 278152

Time: Three Hours

Maximum: 100 marks

Answer All questions

I. Elaborate on:

(2 x 20 = 40)

1. Write in detail about the principles, indications, contra-indications, assessment and method of application of Maitland's manual therapy techniques.
2. Write in detail about the definition, principles, types, indications and contra-indications of aerobic exercises.

II. Write notes on:

(10 x 6 = 60)

1. Strength duration curve.
2. EMG bio feed back.
3. Jump sign.
4. Trampoline.
5. Whirl pool bath.
6. Cryo-stretch.
7. Iontophoresis.
8. McKenzie exercises.
9. Factors affecting nerve conduction.
10. Pain assessment.

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION

FIRST YEAR

(Common to all Branches)

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code: 278152

Time: Three Hours

Maximum: 75 marks

Answer All questions

I. Elaborate on:

(2 x 20 = 40)

1. The basic physics, physiological, therapeutic effects, techniques, indications, contraindications and evidence based clinical application of therapeutic ultrasound.
2. The McKenzie method of spinal pain management.

II. Write notes on:

(7 x 5 = 35)

1. The Slump test.
2. Low-Intensity stimulators (LIS).
3. Mulligan's mobilizations with movements (MWMs).
4. Proprioceptive Neuromuscular Facilitation stretching.
5. Common aerobic exercises and its effects on the spine.
6. Neurophysiological assessment of Brachial plexus lesions.
7. Principles of Stabilization training.
8. Electrical properties of tissues.
9. Normal motor unit potential.
10. EMG Biofeedback.

[LF 752]

OCTOBER 2014

Sub. Code: 8152

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION

FIRST YEAR

(Common to all Branches)

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code: 278152

Time: Three Hours

Maximum: 75 marks

Answer All questions

I. Elaborate on:

(2 x 20 = 40)

1. Define laser and its principles application of laser in pain, inflammation, edema reduction and diabetic ulcer.
2. Describe the principles of mobilization of spine by mulligan therapy compare Maitland Vs Mulligan mobilization.

II. Write notes on:

(7 x 5 = 35)

1. Arndt – Schultz principle.
2. Principles of aerobic exercise.
3. Stress incontinence.
4. Electrical properties of tissues.
5. Training with functional devices.
6. Compression wraps.
7. Pulsed short wave diathermy.
8. Exercises induced muscle soreness.
9. Current parameters.
10. Functional electrical stimulation (FES).

[LG 752]

APRIL 2015

Sub. Code: 8152

MASTER OF PHYSIOTHERAPY (MPT) DEGREE EXAMINATION

FIRST YEAR

(Common to all Branches)

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code: 278152

Time: Three Hours

Maximum: 75 marks

Answer All questions

I. Elaborate on:

(2 x 20 = 40)

1. Describe the principles, method of application, physiological effects and therapeutic effects of phonophoresis.
2. Principles and application of cyriax mobilization.

II. Write notes on:

(7 x 5 = 35)

1. Close pack and loose pack position.
2. Transcutaneous electrical nerve stimulation.
3. Stretch reflex.
4. Skin fold measurement.
5. Functional electrical stimulation.
6. Pelvic floor dysfunction.
7. Wallerian degeneration.
8. Principles of aquatic exercises.
9. Theories of pain.
10. Articular neurobiology.

[LH 752]

OCTOBER 2015

Sub. Code: 8152

MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code : 278152

Time : Three hours

Maximum : 100 marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe pain and explain the various physiotherapy techniques to reduce chronic pain.
2. Describe the principles of Maitland mobilization and explain the techniques for shoulder joint.

II. Write notes on:

(10 x 6 = 60)

1. Movement with mobilization to increase knee flexion.
2. Techniques of lymphatic manipulation.
3. Cryo therapy.
4. Principles of aerobic exercises.
5. Exercise and education for osteoporosis.
6. Fryette's law.
7. Trigger point release.
8. Deep transverse friction massage.
9. Upper limb tension test.
10. Iontophoresis.

[LI 752]

APRIL 2016

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Identify the components of basic EMG unit. Discuss the different types of electrodes used. Give the importance of variables affecting the nerve conduction study.
2. Discuss the aquatic therapy physical law, physiological effects, advantage, disadvantage and describe its clinical application.

II. Write notes on:

(10 x 6 = 60)

1. Pain suppression system in Brain and Spinal Cord.
2. Reverse Natural Apophyseal Guides (RNAG).
3. Hypermobility.
4. Manipulation for Lymphedema.
5. H – Reflex.
6. Indication and contra – indications of Kalterborn Mobilization.
7. Upper Motor Neuron Reflex.
8. Pad (Bladder) method in Ultrasound Therapy.
9. Resisted exercise in Hydrotherapy.
10. Effects of external compression.

[LJ 752]

OCTOBER 2016

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss the models and mechanisms of manual therapy compare and contrast mobilization with impulse and mobilization without impulse.
2. Define evidence based practice, explain in detail about principles, factors, steps, and components, and add a note on evidence based clinical application of electrotherapeutics.

II. Write notes on:

(10 x 6 = 60)

1. Rhythmic stabilization and initiation.
2. Trigger release.
3. Somato sensory evoked potentials and its uses.
4. Cryostretch.
5. Effecting radiating area.
6. Visual and auditory feedback.
7. Muscle energy technique.
8. Vector sweep in interferential current.
9. Walking aids.
10. Nerve excitability test.

[LK 752]

MAY 2017

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Resisted Exercise. Explain in detail about the principles, effects and various methods of applications used in physiotherapy. Add a note on DAPRE.
2. Define Traction. Classify various types of Spinal Traction. Describe indication, contraindication and therapeutic effect of Spinal Traction. Explain the procedure for mechanical traction for lumbar spine.

II. Write notes on:

(10 x 6 = 60)

1. Dysfunction syndrome.
2. Properties of water.
3. Closed pack position and loose pack position of joint.
4. Muscle energy techniques for pelvic dysfunction.
5. Russian current.
6. Trampoline.
7. F wave.
8. Centralization and peripheralization.
9. Trigger point examination.
10. Physiological effect of ultra violet rays.

[LL 752]

OCTOBER 2017

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss the Peripheral Joint mobilization, limitation, indication, contraindication and its various principle and practice.
2. Describe the physiology of pain and the role of physiotherapeutic in Psychosomatic pain.

II. Write notes on:

(10 x 6 = 60)

1. Mat activities in functional Rehabilitation.
2. Anodal galvanism.
3. McKenzie back care programme.
4. Selection of intermittent and static traction.
5. H – Reflex.
6. Physiological effects of water.
7. Barrier concepts.
8. Pulsed short wave diathermy.
9. Lower limb tension test.
10. EMG – biofeedback.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LM 752]

MAY 2018

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Evidence based applications of Electro-physiological studies in physiotherapy.
2. Describe in detail the construction and working of valve diathermy circuit elaborate on biophysical, biochemical, therapeutic effects and methods of application of Micro Wave Diathermy.

II. Write notes on:

(10 x 6 = 60)

1. Training with functional devices.
2. Compare and contrast of McKenzie and Maitland.
3. ENMG.
4. Upper limb tension test.
5. Principles of exercise.
6. Di-dynamic currents.
7. Fryett's law for spinal motion analysis.
8. Factors affecting nerve conduction velocity.
9. Graded oscillation technique.
10. M – Response and f – Wave.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LN 752]

OCTOBER 2018

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Neural mobilization. Explain in detail about the principles, indications, contra indications, assessment and method of application of Buttlar's neural mobilization for upper limb.
2. Define Laser. Production of Ruby laser, physiological, therapeutic effects, indication, contra-indication, techniques of evidence based clinical application of Laser.

II. Write notes on:

(10 x 6 = 60)

1. Derangement syndrome.
2. Principles of aerobic exercise.
3. Compound motor action potential.
4. Fryette's Law.
5. Stretch reflex.
6. Contract relax technique for hamstrings.
7. Filters.
8. Tissue repair and healing.
9. Specificity and pattern theory.
10. Physiological effects of Infra Red Radiation.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LO 752]

MAY 2019

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Muscle Energy Technique. Explain in detail about the muscle energy technique for pelvic dysfunction.
2. Define Short Wave Diathermy. Explain in detail about the production, therapeutic effects and dangers of Short Wave Diathermy. Add a note on various methods of applications of Short Wave Diathermy in physiotherapy.

II. Write notes on:

(10 x 6 = 60)

1. Differentiate between H-reflex and F wave.
2. Positional release technique.
3. Upper limb tension test.
4. Dynamic balance training.
5. Motor unit action potential.
6. Mulligan Mobilization with movement.
7. Neuro-physiological assessment of median nerve.
8. Functional electrical stimulation.
9. Intermittent Pneumatic compression pump.
10. Clinical application of ultrasound.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LP 752]

OCTOBER 2019

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss the physical law of aquatic therapy. Describe in detail about its physiological effects, advantages, disadvantages and its clinical applications.
2. Describe the principles of mobilization of spine by mulligan therapy and compare the concepts of Maitland Vs Mulligan mobilization.

II. Write notes on:

(10 x 6 = 60)

1. Types of EMG electrodes.
2. Methods of ultrasound application.
3. Positional release technique.
4. Articular Neurology.
5. Eccentric strength training.
6. Combination therapy.
7. Advantages, disadvantages and application techniques of compression bandage.
8. Russian currents.
9. Jump sign.
10. Pain assessment scales.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LQ 752]

**NOVEMBER 2020
(MAY 2020 SESSION)**

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS**

Q.P. Code : 278152

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Traction. Classify various types of Spinal Traction. Describe indications, contra indications and therapeutic effects of Spinal Traction. Explain the procedure of Mechanical Traction for Lumbar spine.
2. Describe Pain and explain the various Electrotherapy techniques to reduce Chronic pain.

II. Write notes on:

(10 x 6 = 60)

1. Evidence-based balance exercise programs.
2. Continuous passive motion.
3. Principles and application of Cyriax mobilization.
4. Motor nerve conduction study.
5. Perturbation in standing posture.
6. Iontophoresis.
7. Whirlpool bath.
8. Exercise induced muscle soreness.
9. Hypermobility.
10. Cryo stretch.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MPT 0321]

**MARCH 2021
(OCTOBER 2020 SESSION)**

Sub. Code: 8152

**MPT DEGREE EXAMINATION
(Common to all Branches)
FIRST YEAR
PAPER II – PHYSIOTHERAPEUTICS
Q.P. Code : 278152**

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Pain. Describe in detail the various types of pain, pain evaluation, pain gate theory control and the electrotherapeutic modalities in pain management
2. The principles, indications, contraindications and method of application of Butler's neural mobilization technique for the lower limbs

II. Write notes on:

(10 x 6 = 60)

1. Trigger Point release
2. Continuous Passive Motion
3. Self-stretching
4. F wave
5. Barrier Concepts in Manual therapy
6. Principles of Muscle energy techniques
7. Eccentric muscle training
8. Aquatic exercises
9. Methods of aerobic training
10. Balance training

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MPT 0921]

**SEPTEMBER 2021
(MAY 2021 EXAM SESSION)**

Sub. Code: 8152

MPT DEGREE EXAMINATION

FIRST YEAR - (Regulations for the candidates admitted on or before the A.Y.2017-2018)

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code : 278152

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Write in detail about the definition, principles, types, indications and contra-indications of aerobic exercises
2. Describe the principles of Maitland mobilization and explain the techniques for shoulder joint.

II. Write notes on:

(10 x 6 = 60)

1. Neural Mobilization
2. EMG Bio feed back
3. Cryo stretch
4. Factors affecting nerve conduction
5. Whirl pool bath
6. Stress incontinence
7. Functional electrical stimulation
8. Training with functional devices
9. Exercises induced muscle soreness
10. Articular neurobiology

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MPT 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 8152

MPT DEGREE EXAMINATION

FIRST YEAR - (Regulations for the candidates admitted on or before the A.Y.2017-2018)

PAPER II – PHYSIOTHERAPEUTICS

Q.P. Code : 278152

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss the indications, contraindications and method of application of Functional electrical stimulation.
2. Explain in detail about prescription of aerobic exercise.

II. Write notes on:

(10 x 6 = 60)

1. Management of disc prolapse.
2. Biomechanical principles in manual therapy.
3. Three dimensional traction.
4. Chronaxie test.
5. PNF stretching.
6. Planks.
7. Fryette's law.
8. Method of application of Faradic current.
9. Butler mobilization technique.
10. Trigger point release.
