

APRIL 2001

[KD 701]

M.P.T. DEGREE EXAMINATION.

First Year

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours

Maximum : 100 marks

(5 × 20 = 100)

Answer ALL questions.

1. Illustrate the various electro diagnostic tests. Describe the use of kinesiologic (EMG) electromyography for clinical evaluation and treatment of patients with neuromuscular and musculoskeletal dysfunction.
2. Describe the physiology of pain and the role of physiotherapeutics in psychosomatic pain.
3. Discuss on holistic approach of life style changes as a part of community programme.

4. Discuss the models and mechanisms of manual therapy. Compare and contrast mobilization with impulse and mobilization without impulse.

5. Describe the methods available to evaluate a musculoskeletal disability and how does it apply on compensation, based on evaluation following hand injuries.

NOVEMBER 2001

[KE 701]

Sub. Code : 8102

MASTER OF PHYSIOTHERAPY DEGREE
EXAMINATION.

First Year

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

All questions carry equal marks.

1. Define community based rehabilitation. Outline a manual you will prepare for Rural disabled of poliomyelitis.
 2. Describe the principles of mobilisation of spine by Mulligans methodology. Compare the maitland versus mulligans in mobilisation.
 3. List the various methods of electro diagnosis. Discuss the importance of each one of them.
 4. Give the physical characteristics of laser theory used in PT department. Compare the effects of laser with ultra-sound therapy.
 5. Define handicap. How do you assess the locomotor handicapped and give compensation values for same.
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MARCH 2002

[KG 701]

Sub. Code : 8102

MASTER IN PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours

Maximum : 100 marks

All questions carry equal marks.

1. Identify the components of basic electromyography unit. Discuss the different types of electrodes used. Give the importance of Reflex testing in EMG studies. (20)
 2. Define Iontophoresis and Didynamic currents, Compare methods of application and physiological effects of the two listed. (20)
 3. Define Compensation. Describe the various types of compensations. Discuss any one in detail. (20)
 4. Define Motor unit potential. Identify the various potentials seen at rest. Describe each of them with their significance. (20)
 5. Define Disability. Discuss the methods of disability evaluation. Give the importance of ability index. (20)
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SEPTEMBER 2002

[KH 701]

Sub. Code : 8102

MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours

Maximum : 100 marks

All questions carry equal marks.

(5 × 20 = 100)

1. Define Community based rehabilitation. Discuss in detail the role of community in planning a CBR program.
 2. Describe the accessory movements at elbow joint. Outline use of mulligans methods for joint and soft tissue mobilisation of elbow joint.
 3. Define conduction velocity. Discuss the types and give the significance of "F" wave and "H" reflex.
 4. Describe pain gate theory. Describe how do the various types of TENS work in the relief of pain.
 5. Identify the various assessment methods of functional assessment. Discuss any one in detail.
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APRIL 2003

[KI 701]

Sub. Code : 8102

MASTER IN PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours

Maximum : 100 marks

All questions carry equal marks.

(5 × 20 = 100)

1. Write in detail about methodology and applications of somatosensory evoked potential studies.

(20)

2. Describe pain modulation in CNS. On what basis should a physical therapist consider referring a patient for a chronic pain evaluation? How does the role of physical therapist differ in treatment of acute pain versus chronic pain?

(20)

3. "Teaching as a tool of Therapeutic Intervention". Discuss.

(20)

4. Describe the principles of mobilization and discuss on neural tension tests, its basis and methodology. (20)

5. How do functional status and functional assessment relate to health status? If you are using barthel index how can the reliability be ensured so that the results obtained be used with confidence in both treatment planning and research. (20)

OCTOBER 2003

[KJ 701]

Sub. Code : 8102

MASTER IN PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours

Maximum : 100 marks

Theory : Two hours and
Forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

M.C.Q. must be answered **SEPARATELY** on the
answer sheet provided as per the instructions on the
first page.

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions : (2 × 15 = 30)

1. Describe various modalities used for pain relief
and explain the possible mechanisms of analgesia.

2. Describe various methods of applying faradic
current and add a note on the surge modulation.

II. Short notes : (10 × 5 = 50)

(a) Transcutaneous Electrical Nerve Stimulation
(TENS) modulation.

(b) Selection of intermittent and static traction.

(c) Superficial heating agents.

(d) Uses and contraindications of therapeutic
laser.

(e) Vector sweep in interferential current.

(f) Hydrocortisone Iontophoresis.

(g) PUVA box.

(h) Dangers and precautions of ultraviolet
irradiation.

(i) Vapocoolant spray.

(j) Decision making in electrotherapy.

APRIL 2004

[KK 701]

Sub. Code : 8102

MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours Maximum : 100 marks

Theory : Two hours and Theory : 80 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

A. Essay questions : (2 × 15 = 30)

(1) Describe various electrotherapeutic modalities used for the acceleration of healing of wounds and explain their possible mechanisms for acceleration.

(2) Describe the factors determining the rate of cooling of the body tissue temperature and elaborate on physiological and therapeutic effects of cryotherapy.

B. Short notes : (10 × 5 = 50)

(1) Chemical and neural effects of therapeutic ultrasound

(2) Equipments used for Autotractive

(3) Pressure settings in Intermittent Compression Therapy

(4) Safer range of therapeutic heating and cooling

(5) Russian current stimulation protocol

(6) Anodal galvanism

(7) Safety precautions in electrotherapy

(8) Dangers and precautions of ultraviolet irradiation

(9) Pulsed electromagnetic energy parameters for pain relief

(10) Properties of Therapeutic Laser.

AUGUST 2004

[KL 701]

Sub. Code : 8102

**MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.**

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions :

(2 × 15 = 30)

(1) Discuss the effects and therapeutic value of traction on bone, muscle, ligaments, joint structures, nerve, blood vessels and intervertebral discs.

(2) Explain the physical set up and procedures for operating a UVR device including safety precautions, the skin test, the inverse square law and the cosine law. Add a note on various clinical uses of UVR.

II. Short notes :

(10 × 5 = 50)

(a) Current modulation.

(b) Sensory nerve conduction.

(c) Hemodynamic effects of Thermotherapy.

(d) Types of End fields.

(e) Cryokinetics.

(f) Inverse traction.

(g) Explain why traction and mobilization should be used simultaneously.

(h) Pulsatile current.

(i) Stato acoustic impedance.

(j) Therapeutic effects of Local tissue healing.

FEBRUARY 2005

[KM 701]

Sub. Code : 8102

**MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.**

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours **Maximum : 100 marks**

Theory : Two hours and **Theory : 80 marks**
forty minutes

M.C.Q. : Twenty minutes **M.C.Q. : 20 marks**

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay : **(2 × 15 = 30)**

(1) Discuss the effects of external compression on the accumulation and reabsorption of edema following injury.

(2) Describe the physical principles used to produce LASER. Discuss the therapeutic applications of LASER in wound and soft tissue healing, edema reduction, inflammation and pain.

II. Short notes : **(10 × 5 = 50)**

- (a) Factors affecting nerve conduction tests.**
- (b) Positional traction.**
- (c) Visual and Auditory feed back.**
- (d) Differentiate between physiological effects of heat and cold.**
- (e) Difference between physiological movements and accessory motions.**
- (f) Glidemeister effect.**
- (g) Difference between H reflex and F response.**
- (h) Hyper mobility.**
- (i) Technique and application of Phonophoresis.**
- (j) Basic physics involved in the production of a beam of therapeutic ultrasound.**

AUGUST 2005

[KN 701]

Sub. Code : 8102

**MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.**

First Year

(Revised Regulations)

Paper II ---- PHYSIOTHERAPY MODALITIES

Time : Three hours Maximum : 100 marks
Theory : Two hours and Theory : 80 marks
forty minutes
M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay : (2 × 15 = 30)

(1) What is biofeedback? What are the different types of biofeedback sources used in physical rehabilitation practice? Give an account of the role of EMG biofeedback in patello-femoral dysfunction.

(3 + 2 + 10 = 15)

(2) What are interferential currents? What are its physiological effects and describe the method of application of interferential current therapy in pelvic muscle re-education program?

(5 + 3 + 7 = 15)

II. Short notes : (10 × 5 = 50)

(a) Biophysical, Biochemical and therapeutic effects of microwave diathermy.

(b) Physiological and therapeutic effects of paraffin wax therapy.

(c) Mat activities in functional rehabilitation.

(d) Mc Kenzie Back care program.

(e) M-response and F-wave

(f) Walking aids.

(g) Phonophoresis

(h) Calculation and progression of dosage of ultra-violet therapy.

(i) Principles of stretching.

(j) Exercise therapy and electro-therapy modalities used for gait re-education of a hemiplegic individual.

MARCH 2006

[KO 701]

Sub. Code : 8102

MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours Maximum : 100 marks

Theory : Two hours and Theory : 80 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay : (2 × 15 = 30)

(1) Write the therapeutic, biophysical and biochemical effects of S.W.D. and describe the method of co-planar application in patients of low back pain.

(2) Describe in detail iontophoresis and treatment of hyperhidrosis.

II. Write short notes on : (10 × 5 = 50)

- (a) Therapeutic effects of cryotherapy
- (b) Methods of application of fluidotherapy
- (c) Hydro collator packs
- (d) Indications for spinal traction
- (e) Advantages and disadvantages of pulsed microwave diathermy
- (f) Faradic stimulation in weak pelvic floor muscles
- (g) Therapeutic effects of U.V.R.
- (h) Technique of application of I.R.
- (i) Physiological and Therapeutic effects of paraffin wax
- (j) Coupling media in U.S.

SEPTEMBER 2006

[KP 701]

Sub. Code : 8102

MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours Maximum : 100 marks

Theory : Two hours and Theory : 80 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay :

(1) Write the principles of interferential therapy
and its physiological and therapeutic effects. (20)

(2) Write the physiological and therapeutic
effects of U.V.R. and describe the calculation and
progression of dosage. (15)

(3) Discuss the apparatus used, indications,
contraindications of iontophoresis. (15)

II. Write short notes on : (6 × 5 = 30)

(a) Physiological effects of water.

(b) Indications of traction.

(c) Methods of application of hot packs.

(d) Effect of cold packs on spasticity.

(e) Contraindications of pulsed short wave
diathermy.

(f) Therapeutic effects of M.W.D.

FEBRUARY 2007

[KQ 701]

Sub. Code : 8102

MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay :

(1) Discuss the cold laser production, physical characteristics, physiological effects and describe its application on 8 cms open wound over left lateral malleolus of 60 years old male diabetic patient. (20)

(2) Write the physiological effects and application of ultrasonic Therapy. (15)

(3) Describe in detail about faradic type current, its physiological effects and write about the faradic stimulation in patients of Bell's palsy. (15)

II. Write short notes on : (6 × 5 = 30)

- (a) Physical laws of water.
- (b) Principles of Mulligan technique.
- (c) Physiological effects of contrast bath.
- (d) Therapeutic application of EMG Biofeedback.
- (e) Application of inductothermy.
- (f) Obstetrical TENS.

MARCH 2008

[KS 701]

Sub. Code : 8102

**MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.**

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Q.P. Code : 278102

Time : Three hours

Maximum : 100 marks

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Long Essay : (2 × 20 = 40)

1. Discuss the peripheral joint mobilization, limitation, indication, contraindication and its various principle and practice. (20)

2. Discuss the hydrotherapy, physical law, physiological effects, safety consideration, advantage, disadvantage and describe its clinical application. (20)

II. Write short notes on : (10 × 6 = 60)

1. Blink reflex.

2. Factors affecting nerve conduction velocity.

3. Functional re-education.
4. Lumbar traction technique.
5. Cold laser production.
6. Muscle energy technique.
7. SEP.
8. Vapocoolant spray.
9. Trigger points.
10. Graded oscillation technique.

September 2008

[KT 701]

Sub. Code : 8102

MASTER OF PHYSIOTHERAPY (MPT) DEGREE
EXAMINATION.

First Year

(Revised Regulations)

Paper II — PHYSIOTHERAPY MODALITIES

Q.P. Code : 278102

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Long Essay : (2 × 20 = 40)

1. Describe pain gate theory and write how do the various types of tens work in the relief of pain. (20)

2. Describe the technique clinical application, indication and contra indications of phonophoresis. (20)

II. Short notes : (10 × 6 = 60)

1. Pulsed short wave diathermy.

2. Current modulation.

3. Visual and auditory feedback.
4. Cryokinetics.
5. Mc Kenzie back care programme.
6. Properties of therapeutic laser.
7. Effects of traction.
8. Therapeutic effects of UVR.
9. Coupling Media in US.
10. Hydro collator packs.

March 2009

[KU 701]

Sub. Code: 8102

**MASTER OF PHYSIOTHERAPY (MPT)
DEGREE EXAMINATION**

(Revised Regulations)

FIRST YEAR

Paper II – PHYSIOTHERAPY MODALITIES

Q.P. Code : 278102

Time : Three hours

Maximum : 100 marks

Answer All questions

Draw suitable diagrams where ever necessary

I. Essay questions :

(2 x 20 = 40)

1. Describe in detail about the basic concepts of joint motion.
Add a note on oscillatory techniques.
2. Write the physiological effects of applications of microwave diathermy.

II. Write short notes on :

(10 x 6 = 60)

1. Electromagnetic Spectrum.
2. Principles of Stretching.
3. Calculation of dosage in UV therapy.
4. Mechanism of spasticity reduction with cryotherapy.
5. Disability evaluation for upper limb amputees.
6. Didynamic current.
7. Laws of governing Radiation.
8. Modified Barthel Index.
9. Types of crutch walking and measurement for axillary crutches.
10. Pain Modulation in Central Nervous System.

September 2009

[KV 701]

Sub. Code: 8102

**MASTER OF PHYSIOTHERAPY (MPT)
DEGREE EXAMINATION**

(Revised Regulations)

FIRST YEAR

Paper II – PHYSIOTHERAPY MODALITIES

Q.P. Code : 278102

Time : Three hours

Maximum : 100 marks

Answer All questions

Draw suitable diagrams where ever necessary

I. Essay questions :

(2 x 20 = 40)

1. What is meant by EMG?

Describe in detail about the motor and sensory conduction.

2. Describe in detail the construction and working of valve diathermy circuit. Elaborate on biophysical, biochemical, therapeutic effects and methods of application of short wave diathermy.

II. Write short notes on :

(10 x 6 = 60)

1. Compressive Cryotherapy.
2. Gravity lumbar traction.
3. How interferential currents produced.
4. Cervical traction technique.
5. Methods of external compression for edema.
6. F wave.
7. Iontophoresis.
8. PUVA Regimen.
9. Applications of somatosensory evoked potentials.
10. Effects of traction.

March 2010

[KW 701]

Sub. Code: 8102

**MASTER OF PHYSIOTHERAPY (MPT)
DEGREE EXAMINATION**

(Revised Regulations)

FIRST YEAR

Paper II – PHYSIOTHERAPY MODALITIES

Q.P. Code : 278102

Time : Three hours

Maximum : 100 marks

Answer All questions

Draw suitable diagrams where ever necessary

I. Essay questions :

(2 x 20 = 40)

1. Compare the McKenzie and maitland.
Describe in detail about principles of mulligan technique.
2. Define tens and IFT, compare and contrast the methods of application and its physiological effects of the two listed.

II. Write short notes on :

(10 x 6 = 60)

1. Parameters and dosimetry of ultrasound.
2. Pressure settings in intermittent compression therapy.
3. Sub aquatic method in ultra sound.
4. Disability compensation for upper limb.
5. Lower crossed syndrome.
6. Methods of application of wax bath.
7. What is endfeel? Write a note on normal and abnormal endfeel.
8. Haemodynamic effects of thermo therapy.
9. Trigger points.
10. Graded oscillation technique.

September 2010

[KX 701]

Sub.Code: 8102

**MASTER OF PHYSIOTHERAPY (MPT)
DEGREE EXAMINATION
(Revised Regulations)**

For candidates admitted from 2000-2001 onwards

FIRST YEAR

Paper II – PHYSIOTHERAPY MODALITIES

Q.P. Code : 278102

Time : Three hours

Maximum : 100 marks

Answer All questions

Draw suitable diagrams where ever necessary

I. Essay questions :

(2 x 20 = 40)

1. Define Motor unit potential. Identify the various potentials at rest.
Describe each of them with their significance.
Add a note on therapeutic on electro myograph.
2. Discuss the hydrotherapy, physical law, physiological effects, safety consideration, advantage, disadvantage and describe its clinical application.

II. Write short notes on :

(10 x 6 = 60)

1. Calculation of dosage in ultraviolet therapy.
2. Blink reflex.
3. Faradic stimulation in deep pelvic floor muscles.
4. Fryett's law for spinal motion analysis.
5. Explain the procedure and differences of SD curve.
6. Factors affecting nerve conduction velocity.
7. ULTT.
8. Deep friction massage.
9. EMG changes in peripheral neuropathies.
10. Dosage of microwave.

MAY 2011

[KX 701]

Sub. Code: 8102

**MASTER OF PHYSIOTHERAPY (MPT)
DEGREE EXAMINATION**

Revised Regulations : For candidates admitted from 2000-2001 onwards

FIRST YEAR

Paper II – PHYSIOTHERAPY MODALITIES

Q.P. Code : 278102

Time : Three hours

Maximum : 100 marks

Answer All questions

Draw suitable diagrams where ever necessary

I. Essay Questions :

(2 x 20 = 40)

1. How would you diagnose the three syndromes suggested by McKenzie? Explain in detail the treatment of three syndromes based on the principles of centralization and Peripherilization.
2. Explain in detail the principle of motor nerve conduction and sensory nerve conduction studies. Add a note on variables affecting the nerve conduction studies.

II. Write Short Notes :

(10 x 6 = 60)

1. Hydro collator packs.
2. Clinical reasoning for the use of ultrasound in the management of soft tissue injuries.
3. Cyriax model of massage.
4. Role of electrical stimulation in wound healing.
5. EMG biofeed back.
6. Mcqueens and Zinovieff protocols in progressive resisted exercises.
7. H reflex.
8. Various methods of muscle power grading.
9. Bad ragaz techniques in hydrotherapy.
10. Russian currents.
