

August 2011

[KZ 6259]

Sub. Code : 6259

BACHELOR OF PHYSIOTHERAPY EXAMINATION

THIRD YEAR

Paper I – ELECTROTHERAPY – I (LMF)

Q.P. Code : 746259

Time : Three hours

Maximum : 100 marks

ANSWER ALL QUESTIONS

I. LONG ESSAYS

(2X20=40)

1. What is Biofeedback? Describe in detail the principles of Biofeedback. Add a note on the uses of Biofeedback.
2. What is surged faradism? Describe in detail the mechanism of production of faradic current. Add a note on the physiological and therapeutic effects of faradic current.

II. SHORT NOTES

(8X5=40)

1. Recording electrodes for electromyography.
2. Neurophysiology of pain.
3. Parameters of Interferential therapy.
4. Propagation of action potential.
5. Diadynamic currents.
6. Physics of Iontophoresis.
7. H-reflex.
8. Therapeutic uses of electricity.

III. SHORT ANSWERS

(10X2=20)

1. Latency.
2. What is Electromyography?
3. Uses of biofeedback.
4. Sinusoidal current.
5. Resting membrane potential.
6. Factors affecting accuracy of strength duration curve.
7. Shape of interrupted galvanic current.
8. Dangers of Iontophoresis.
9. Motor point.
10. Ions used in Iontophoresis.

February 2012

[LA 6259]

Sub. Code: 6259

**BACHELOR OF PHYSIOTHERAPY EXAMINATION
THIRD YEAR**

PAPER I – ELECTROTHERAPY I (LMF)

Q.P. Code: 746259

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 20 = 40)

1. Define Iontophoresis. What type of current is used in Iontophoresis?
Describe the mechanism of Iontophoresis and the therapeutic uses.
2. Describe the current parameters used in the different types of TENS?
How does pain modulation occur in each type of TENS? Which type of TENS is best in chronic pain management?

II. Write notes on:

(8 x 5 = 40)

1. Physiological effects of Interferential Current.
2. Electromagnetic Induction.
3. Electric shock.
4. Diadynamic Current.
5. Describe the clinical implication of SD curve test.
6. Sinusoidal current.
7. Production of therapeutic Ultrasound.
8. Working of Smart Bristow Faradic Coil.

III. Short Answers:

(10 x 2 = 20)

1. Capacitance.
2. Principles of Biofeedback.
3. Semiconductors.
4. Chronaxie.
5. Fuse.
6. Motor point and Motor unit.
7. Classification of Nerve Injury.
8. Stimulation of denervated muscle.
9. Ohm's law.
10. Checking of apparatus for Electrical muscle stimulation.

[LA 6259]

AUGUST 2012

Sub. Code: 6259

THIRD YEAR BPT EXAM

PAPER I – ELECTROTHERAPY – I (LMF)

Q.P. Code: 746259

Time: Three Hours

Maximum: 100 marks

(180 Min) Answer ALL questions in the same order.

I. Elaborate on:

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

- | | | | |
|---|----|----|----|
| 1. Define Pain? What are the types of pain? Describe the gate control theory of pain? | 19 | 33 | 20 |
| 2. Describe Interferential therapy and its parameters in detail? | 19 | 33 | 20 |

II. Write notes on:

- | | | | |
|--|---|---|---|
| 1. High Voltage pulsed Galvanic stimulation. | 3 | 8 | 5 |
| 2. Electromyography. | 3 | 8 | 5 |
| 3. Iontophoresis. | 3 | 8 | 5 |
| 4. Diadynamic current. | 3 | 8 | 5 |
| 5. Dangers of therapeutic direct current. | 3 | 8 | 5 |
| 6. Strength – Duration curve. | 3 | 8 | 5 |
| 7. Burst mode TENS. | 3 | 8 | 5 |
| 8. Russian current. | 3 | 8 | 5 |

III. Short Answers:

- | | | | |
|-----------------------------------|---|---|---|
| 1. Motor point. | 1 | 5 | 2 |
| 2. Rheobase. | 1 | 5 | 2 |
| 3. Surged current. | 1 | 5 | 2 |
| 4. Types of TENS. | 1 | 5 | 2 |
| 5. What is Action potential? | 1 | 5 | 2 |
| 6. Kinked curve. | 1 | 5 | 2 |
| 7. Use of Glycopyrronium bromide. | 1 | 5 | 2 |
| 8. Acute Pain. | 1 | 5 | 2 |
| 9. Refractory period. | 1 | 5 | 2 |
| 10. Axanotmesis. | 1 | 5 | 2 |

[LC 6259]

FEBRUARY 2013

Sub. Code: 6259

THIRD YEAR BPT EXAM

PAPER I – ELECTROTHERAPY – I (LMF)

Q.P. Code: 746259

**Time: Three Hours
(180 Min)**

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. Define Interferential therapy (IFT). Describe the methods of application and the Physiological effects of IFT? Add a note on Contraindications of IFT.
2. Define Interrupted Direct Current (IDC). Describe the effects of IDC on Innervated and Denervated muscle. Differentiate Faradic from IDC.

II. Write notes on:

(8X5=40)

1. Production of Electromagnetic waves.
2. Pain modulation.
3. Galvanic tetanus ratio.
4. Methods of application of Ultrasound.
5. Moving coil Galvanometer.
6. Surge.
7. Uses of Transformer.
8. Therapeutic effects of High Voltage Pulsed Galvanic Current.

III. Short Answers:

(10X2=20)

1. Diode valve.
2. H reflex.
3. Feedback Loop.
4. Mutual induction.
5. Ions used in Iontophoresis.
6. Resistance in series and parallel.
7. Nerve conduction test.
8. Describe the type of TENS used for acute pain.
9. Dangers of Iontophoresis.
10. Lenz's law.

[LD 6259]

AUGUST 2013

Sub. Code: 6259

THIRD YEAR BPT EXAM

PAPER I – ELECTROTHERAPY – I(LMF)

Q.P. Code : 746259

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. Define faradic current. Write briefly about modified faradic currents and discuss their physiological effects. Add a note surging of faradic current?
2. What are the different types of electrical tests done in electrotherapy department?

II. Write Notes on:

(8X5=40)

1. Faradic – IDC test.
2. Glidemester effect.
3. Modulation and classification of TENS
4. Sterodynamic IFT
5. Treatment for neuroproxia of Radial nerve.
6. Functional electrical stimulation
7. Fuse
8. Pain gate theory.

III. Short Answer:

(10X2=20)

1. Types of electric current.
2. Ions
3. Maximum voluntary isometric contraction
4. Orthodromic conduction
5. Jouel's Law
6. Chronaxie
7. Compound motor unit action potential
8. Capacitance
9. F wave
10. Syncopated rhythm

[LE 6259]

FEBRUARY 2014
THIRD YEAR BPT EXAM
PAPER I – ELECTROTHERAPY – I(LMF)
Q.P. Code : 746259

Sub. Code: 6259

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. What is multi vibrator circuit? Discuss its working.
2. Write about S.D.Curve. What is the significance of doing as S.D.Curve?
Explain the results and prognosis.

II. Write Notes on:

(8X5=40)

1. Biofeedback and its benefits.
2. Physiological effects of alternating current.
3. Faradic foot bath.
4. Quadriceps inhibition. How would you treat it?
5. Treatment for Bell's palsy left side.
6. Faradic Galvanic test.
7. Chronaxie and Rheobase.
8. Triode valve and its use.

III. Short Answers:

(10X2=20)

1. Lasers
2. Preparation of a patient for E.S
3. What is erythema and how to prevent it?
4. Neuropraxia.
5. Skin resistance test.
6. Wrist drop early stage.
7. Placement and settings for IFT.
8. TENS.
9. Ion used in iontophoresis.
10. Difference between A.C and D.C

[LF 6259]

AUGUST 2014

Sub. Code: 6259

**THIRD YEAR BPT EXAM
PAPER I – ELECTROTHERAPY – I (LMF)**

Q.P. Code : 746259

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X20=40)

1. Define Faradic current. Describe the Physiological effects and Therapeutic effects of Faradic current.
2. Define Interferential current. Describe the Parameters and Therapeutic effects of Interferential current.

II. Write Notes on:

(8X5=40)

1. Propagation of Action potential.
2. Gate control theory.
3. Burst mode TENS.
4. Principles of Biofeedback.
5. Strength-Duration Curve in Peripheral Nerve Injury.
6. Motor Nerve Conduction test.
7. Testing the Electrical Stimulator apparatus.
8. Contraindications of Iontophoresis.

III. Short Answer:

(10X2=20)

1. Waveforms used in Interrupted direct current.
2. Dangers of Interferential current.
3. Sinusoidal current.
4. Advantages of TENS.
5. Recording electrodes in Electromyography.
6. Difference between F-wave and H reflex.
7. Physics of Iontophoresis.
8. Earth shock.
9. Motor unit.
10. Effects of Interrupted direct current on innervated and denervated muscle.

[LG 6259]

FEBRUARY 2015

Sub. Code: 6259

**THIRD YEAR BPT EXAMINATION
PAPER I – ELECTROTHERAPY – I (LMF)**

Q.P. Code : 746259

Time: Three hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Write about Strength Duration curve. Discuss the Strength Duration curve in a case of a Peripheral Nerve Injury which has started regenerating.
2. Define Transcutaneous Electrical Nerve Stimulation. Describe the parameters, Types, Electrode Placement, Advantages, Disadvantages and Contra Indications of Transcutaneous Electrical Nerve Stimulation.

II. Write notes on:

(8 x 5 = 40)

1. Radial Nerve Palsy
2. Triode Valve
3. Rectifiers
4. Interferential Therapy
5. Pain Gate Theory
6. Smart Bristow Faradic Coil
7. Electric Shock
8. Faradism Under Pressure

III. Short answer on:

(10 x 2 = 20)

1. Joule's Law
2. Types of Electric Currents
3. Fuse
4. H reflex
5. Ohm's Law
6. Electro Magnetic Induction
7. Voltmeter
8. Hyper Hydrosis
9. Action Potential
10. Rheostat

B.P.T. DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code: 746259

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 20 = 40)

1. Discuss physiological and therapeutic effects of Interrupted Galvanic current.
Add a note on contra-indications and dangers of galvanic current.
2. What are the types of peripheral nerve injuries?
Discuss the selection of current for neuropraxia and neurotmesis types of injury.
Add a note on factors affecting the regeneration of axon.

II. Write notes on:

(8 x 5 = 40)

1. Volt meter.
2. Parameters of IFT.
3. Saturday night palsy.
4. Deltoid Inhibition.
5. Types of TENS.
6. Accommodation.
7. Iontophoresis.
8. Resistance in series and parallel.

III. Short Answers on:

(10 x 2 = 20)

1. All or none law.
2. Ape thumb deformity.
3. Eddy current.
4. Fibrillation potential.
5. Functional electrical stimulator.
6. Tardy ulnar nerve palsy.
7. SD curve on partially denervated muscle.
8. Rheobase.
9. Difference between facial palsy and bell's palsy.
10. Hyperemia.

[LI 6259]

FEBRUARY 2016

Sub. Code: 6259

**THIRD YEAR BPT EXAMINATION
PAPER I – ELECTROTHERAPY – I (LMF)**

Q.P. Code : 746259

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Define Interferential Current. Explain in detail types, indication contraindication, Physiological effect and dangers, parameter of Interferential Current.
2. Explain in detail about the Therapeutic and Physiological effects, uses and techniques of treatment with Interrupted Direct Current.

II. Write notes on: **(8 x 5 = 40)**

1. Radial Nerve Palsy.
2. Thermionic Valves.
3. Potentiometer.
4. Transcutaneous Electrical Nerve Stimulation.
5. Faradic Galvanic Test.
6. Deltoid Inhibition.
7. Faradism Under Pressure.
8. Pain Pathway.

III. Short answer on: **(10 x 2 = 20)**

1. Chronaxie.
2. Capacitance.
3. Ions and its uses.
4. Define Farad and Watt.
5. Variable Transformer.
6. Resistance and its types.
7. Kink in Strength Duration Curve.
8. Fatigue Test.
9. Characteristics of Denervated Muscle.
10. Waveforms of Faradic Type Current.

[LJ 6259]

AUGUST 2016

Sub. Code: 6259

**THIRD YEAR BPT EXAMINATION
PAPER I – ELECTROTHERAPY – I (LMF)**

Q.P. Code : 746259

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Define transcutaneous electrical nerve stimulation. Describe the parameters, types and physiological effects of transcutaneous electrical nerve stimulation.
2. What is Bio-feedback? Describe the parameters and uses of Bio-feedback.

II. Write notes on: **(8 x 5 = 40)**

1. Safety devices used in electrotherapy.
2. Wallerian degeneration.
3. Faradic footbath.
4. Electromyography.
5. Parameters of interferential therapy.
6. Indications of faradic current.
7. Transformer.
8. Strength duration curve.

III. Short answer on: **(10 x 2 = 20)**

1. Sterodynamic interferential therapy.
2. Motor point.
3. Tinel's sign.
4. Russian current.
5. What is accommodation? How to prevent it?
6. Faradic galvanic test.
7. Ohm's law.
8. H reflex.
9. Dangers of direct current.
10. Neurotemesis.

[LK 6259]

FEBRUARY 2017

Sub. Code: 6259

**BPT DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. What is Strength Duration Curve? Write the procedure of doing Strength Duration Curve. Describe the characteristic of curve in peripheral nerve lesion.
2. Define Faradic current. Describe the surging of Faradic current. Discuss the therapeutic effects of Faradic current.

II. Write notes on: **(8 x 5 = 40)**

1. Gate control theory of pain.
2. Methods of application of interferential therapy.
3. Uses of biofeedback.
4. Fuse.
5. Earth shock.
6. Effects of a direct current.
7. Semiconductors.
8. Indications and contra-indications of interferential therapy.

III. Short answer on: **(10 x 2 = 20)**

1. Rheostat.
2. Glidemeister effect.
3. H reflex.
4. Action potential.
5. Iontophoresis.
6. Acute pain.
7. Advantages of interferential therapy.
8. Impedance.
9. Types of electrodes.
10. Preparation of patient for electrical stimulation.

[LL 6259]

AUGUST 2017

Sub. Code: 6259

**BPT DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Define Iontophoresis. Write the physical principle of Iontophoresis. Name the ion used in treating idiopathic hyperhidrosis and explain the treatment procedure of the same.
2. Define Interferential therapy. What is frequency sweep in Interferential therapy? Describe the methods of application and therapeutic effects of Interferential therapy.

II. Write notes on: **(8 x 5 = 40)**

1. Types of transcutaneous electrical nerve stimulation.
2. Neuropraxia.
3. Electrotherapy management of Bell's palsy.
4. Functional electrical stimulation.
5. Interrupted direct current.
6. Moving – coil milliamperemeter.
7. Types and production of faradic current.
8. Describe the electrotherapy modalities used to strengthen the muscle.

III. Short answer on: **(10 x 2 = 20)**

1. Masking effect.
2. Motor unit.
3. Rheobase.
4. Erythema.
5. Latent period.
6. Triode valve.
7. Feedback loop.
8. Cathode.
9. Joule's law.
10. Advantages and disadvantages of strength duration curve.

[LM 6259]

FEBRUARY 2018

Sub. Code: 6259

**BPT DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: (2 x 20 = 40)

1. Describe the types, parameters, therapeutic effects and advantages of Transcutaneous Electrical Nerve Stimulation.
2. Discuss the various electro diagnostic tests in detail.

II. Write notes on: (8 x 5 = 40)

1. Dangers of interferential therapy.
2. Action potential.
3. Neuro muscular junction.
4. Types of impulse.
5. Causes of shock.
6. Diadynamic current.
7. H Reflex.
8. Foot drop.

III. Short answer on: (10 x 2 = 20)

1. Suction electrode.
2. Amplitude.
3. Switch.
4. Allodynia.
5. Edema.
6. Cathodal Galvanism.
7. Ohm's law.
8. Effects of chlorine ionisation.
9. Wheal.
10. Electrophoresis.

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

[LN 6259]

AUGUST 2018

Sub. Code: 6259

**BPT DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Define Bio-feed back. Describe in detail, the principles and uses of Bio-feed back.
2. Working of Smart Bristo coil and physiological effects of Faradic current.

II. Write notes on: **(8 x 5 = 40)**

1. Treatment method of application of TENS for low back pain.
2. Ammeter.
3. Dangers and preventions of therapeutic currents.
4. Explain in detail on Pain gate theory.
5. Treatment method for radial nerve palsy.
6. Faradism under pressure.
7. Nerve conduction test.
8. Physiological effects of IFT.

III. Short answer on: **(10 x 2 = 20)**

1. Rheobase.
2. Checking of apparatus for EMS.
3. S.D. curve.
4. Russian current.
5. Electro myography.
6. Ions used in inotophoresis.
7. Uses of transformer.
8. F wave.
9. Joule's law.
10. Hyper hydrosis.

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

[LO 6259]

FEBRUARY 2019

Sub. Code: 6259

**BPT DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: (2 x 20 = 40)

1. Define TENS. Describe the methods of application and the physiological effects and contraindications of TENS.
2. Define Faradic current. Physiological, therapeutic effects indication and contraindications of Faradic current.

II. Write notes on: (8 x 5 = 40)

1. Bell's palsy.
2. Different theories of pain.
3. Methods of application of iontophoresis.
4. Explain different types of Wave forms.
5. Functional electrical stimulation.
6. Therapeutic and physiological effects of sinusoidal current.
7. Define transformer and types of transformer.
8. Deltoid inhibition.

III. Short answer on: (10 x 2 = 20)

1. Choke coil.
2. Faradic galvanic test.
3. H.reflex.
4. Lenz's law.
5. Capacitance.
6. Fuse.
7. Glide meister effect.
8. Orthrotopic conduction.
9. Shock.
10. Foot drop.

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

[LP 6259]

AUGUST 2019

Sub. Code: 6259

**BPT DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: (2 x 20 = 40)

1. Discuss the Pain pathway, theories of pain and types of Pain in detail.
2. Explain about the indications, contraindications and methods of application of interrupted direct current.

II. Write notes on: (8 x 5 = 40)

1. Types of electrodes used in interferential therapy.
2. Brief intense TENS.
3. Synapse.
4. Sinusoidal waveform.
5. Prevention of shock.
6. Functional electrical stimulation.
7. 'F' wave.
8. Wrist drop.

III. Short answer on: (10 x 2 = 20)

1. Frequency.
2. Sweep.
3. Motor unit.
4. Chronaxie.
5. Anodal Galvanism.
6. Labile treatment.
7. Rectifier.
8. Hyperalgesia.
9. Effects of zinc ionization.
10. Electrolytic burns.

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

[LQ 6259]

FEBRUARY 2020

Sub. Code: 6259

**BPT DEGREE EXAMINATION
THIRD YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: (2 x 20 = 40)

1. Define Interferential Therapy. Explain its parameters. Describe the methods of application and therapeutic effects of Interferential Therapy.
2. Describe the types of Low frequency current.
a) Faradic type current b) Interrupted Galvanic current

II. Write notes on: (8 x 5 = 40)

1. What are the Therapeutic uses of electricity?
2. Explain Faradic Foot bath.
3. Sweep frequency.
4. Ions used in Iontophoresis.
5. Bio-feed back.
6. Define Erb's palsy and its management.
7. Types of Nerve lesions.
8. Voltmeter.

III. Short answer on: (10 x 2 = 20)

1. Difference between facial palsy and Bell's palsy.
2. Sinusoidal current.
3. Pulse width.
4. Diode valves.
5. Accommodation.
6. Switches.
7. Variable Transformer.
8. F wave.
9. Define Earth shock.
10. Resistance in parallel.

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

[LR 1220]

**DECEMBER 2020
(AUGUST 2020 EXAM SESSION)
BPT DEGREE EXAMINATION
FOURTH YEAR
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Sub. Code: 6259

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss the Peripheral Nerve Injuries. Add a note on Physiotherapy management for Radial Nerve Injury.
2. What is Iontophoresis? Describe in detail the principle Iontophoresis. Add a note on the ions, physiological and therapeutic effects of Iontophoresis.

II. Write notes on:

(8 x 5 = 40)

1. Indication and Therapeutic uses of Biofeedback.
2. Earth Shock.
3. Burst TENS.
4. Types of electrode used in IFT.
5. Strength Duration Curve.
6. Sinusoidal Current.
7. Quadriceps lack.
8. Faradic coil.

III. Short answer on:

(10 x 2 = 20)

1. Rheostat.
2. Rheobase.
3. Fibrillation potential.
4. Ohm's Law.
5. Russian Current.
6. Trigger Point.
7. Kinked Curve.
8. Faradic Galvanic test.
9. Functional Electrical Stimulation.
10. Capacitor.

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

[BPT 0921]

**SEPTEMBER 2021
(FEBRUARY 2021 EXAM SESSION)**

Sub. Code: 6259

BPT DEGREE EXAMINATION

THIRD YEAR - (Regulations of 2004-2005 and 2006-2007 admitted candidates are merged with 2010-2011)

PAPER I – ELECTROTHERAPY – I (LMF)

Q.P. Code : 746259

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Faradic current. Physiological, therapeutic effects indication and contraindications of Faradic current.
2. What is Biofeedback? Describe in detail the principles of Biofeedback. Add a note on the uses of Biofeedback.

II. Write notes on:

(8 x 5 = 40)

1. Bell's palsy.
2. Define transformer and types of transformer.
3. Deltoid inhibition.
4. Neurophysiology of pain.
5. Production of therapeutic Ultrasound.
6. Describe the clinical implication of SD curve test.
7. Physiological effects of Interferential Current.
8. Pain modulation.

III. Short answer on:

(10 x 2 = 20)

1. Faradic galvanic test.
2. Fuse.
3. H.reflex.
4. Shock.
5. Foot drop.
6. Surging.
7. Resting membrane potential.
8. Motor point.
9. Ohm's law.
10. Ions used in Iontophoresis.

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

[BPT 0122]

**JANUARY 2022
(AUGUST 2021 EXAM SESSION)**

Sub. Code: 6259

**BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulations of 2004-2005 and 2006-2007 are merged with 2010-2011)
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Pain. What are Types of pain? Describe about Theories of Pain. Add note on Modes of TENS used for pain.
2. Define Interrupted Galvanic Current. Describe effects of Interrupted Galvanic Current on Innervated and Denervated muscles, Differentiate Faradic from Galvanic current.

II. Write notes on:

(8 x 5 = 40)

1. Action potential.
2. Nerve conduction test.
3. Surging of Faradic Current.
4. High voltage pulsed galvanic current.
5. Treatment parameters of interferential therapy.
6. EMG biofeedback.
7. Ions used in Iontophoresis and their clinical indication.
8. Foot drop.

III. Short answer on:

(10 x 2 = 20)

1. Types of nerve fibers.
2. Erbs palsy.
3. F – wave.
4. What are Medium frequency currents.
5. Synapse.
6. Fuses.
7. Lenz law.
8. Nerve injuries.
9. Contraindications of Iontophoresis.
10. Beat frequency.

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

[BPT 0622]

**JUNE 2022
(FEBRUARY 2022 EXAM SESSION)**

Sub. Code: 6259

**BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulations of 2004-2005 and 2006-2007 are merged with 2010-2011)
PAPER I – ELECTROTHERAPY – I (LMF)
Q.P. Code : 746259**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. What is S-D Curve? What is the Procedure of doing S-D Curve? Describe the characteristics of curve in Peripheral Nerve Lesions. Add a note on its uses.
2. Define Iontophoresis. Write the physical principle of Iontophoresis. Name the ions used in treating Hyperhidrosis and explain the treatment procedure for the same.

II. Write notes on:

(8 x 5 = 40)

1. Pain pathway.
2. Deltoid Inhibition.
3. Transformer – Types and its uses.
4. Recording Electrodes in EMG.
5. Earth shock.
6. Propagation of Action Potential.
7. Faradism under pressure.
8. Facial Palsy.

III. Short answer on:

(10 x 2 = 20)

1. Motor Unit.
2. Chronaxie.
3. FES.
4. Advantages and uses of IFT.
5. Smart Bristow Faradic Coil.
6. Rheostat and its uses.
7. Sinusoidal Current.
8. Difference between Facial and Bell's palsy.
9. Pulse duration.
10. Maximum Voluntary Isometric Contraction.

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

[BPT 1022]

**OCTOBER 2022
(AUGUST 2022 EXAM SESSION)**

Sub. Code: 6259

**BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulations of 2004-2005 and 2006-2007 are merged with 2010-2011)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)
Q.P. Code : 746259**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain in detail about the Parameters, Physiological effects, Therapeutic effects and Precautions of Interrupted Direct Current
2. Define TENS. Describe in detail about the dosage parameters, electrodes placement and the effects of different types of TENS.

II. Write notes on:

(8 x 5 = 40)

1. Biofeed back.
2. Faradism under Pressure for Lower limb.
3. High Voltage Pulsed Galvanic current.
4. Iontophoresis.
5. Chronaxie, Rheobase and a Kink in S.D Curve.
6. Indications and contraindications for Faradic current.
7. IFT and its therapeutic effects.
8. Electrotherapy in Ulnar nerve injury at elbow level.

III. Short answers on:

(10 x 2 = 20)

1. Deltoid inhibition.
2. Skin Resistance Reduction.
3. Sunderland's classification of Nerve Injuries.
4. Voltmeter.
5. Nerve conduction velocity.
6. Pain Modulation.
7. Different wave forms of impulses in Electrical stimulation.
8. Cathodal Galvanism.
9. Care of apparatus.
10. H Reflex.

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[BPT 0423]

**APRIL 2023
(FEBRUARY 2023 EXAM SESSION)**

Sub. Code: 6259

**BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulations of 2004-2005 and 2006-2007 are merged with 2010-2011)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)**

Q.P. Code: 746259

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define TENS. Describe the Parameters and method of application of TENS.
2. Explain in detail about the principles, techniques and procedure for strength duration curve.

II. Write notes on:

(8 x 5 = 40)

1. Physiological and therapeutic effects of Faradic current.
2. Functional Electrical Stimulation.
3. Faradic Galvanic Test.
4. Iontophoresis for hyperhidrosis.
5. Indications and contraindications for Interrupted Direct current.
6. Saturday night palsy.
7. Faradic foot bath.
8. IFT for Lowback pain.

III. Short answers on:

(10 x 2 = 20)

1. Ohm's law.
2. Motor point.
3. Wallerian degeneration and regeneration.
4. Earth shock.
5. Conductors and insulators.
6. EMG patterns in a denervated muscle at rest.
7. Quadriceps inhibition.
8. Seddon's classification of nerve injuries.
9. Ammeter.
10. Motor nerve conduction velocity.

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[BPT 0824]

AUGUST 2024

Sub. Code: 6259

**BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION
THIRD YEAR - (Regulations of 2004-2005 and 2006-2007 are merged with 2010-2011)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)**

Q.P. Code: 746259

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define a Transformer and its types. Describe detail its principle of working, construction and uses.
2. Discuss in detail the physiological effects of Faradic type current. Add a note on the technique of giving “Faradism under Pressure”.

II. Write notes on:

(8 x 5 = 40)

1. Pain Gate theory.
2. Types and uses of SD Curve.
3. Ions and its uses.
4. Type of D.C impulses.
5. Magnetic filled and magnetic forces.
6. Foot drop.
7. Therapeutic uses of electricity.
8. Principles of Biofeedback.

III. Short answers on:

(10 x 2 = 20)

1. Uses of rectifiers.
2. Electrical Burns.
3. Impedance.
4. Amplitude.
5. Electric Shock.
6. Motor Point.
7. Uses of Fuse.
8. Ohm’s law.
9. Quadricep’s Inhibition.
10. Rheostat.
