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

[LR 1220] **DECEMBER 2020** **Sub. Code: 6281**

(AUGUST 2020 EXAM SESSION)

BPT DEGREE EXAMINATION

THIRD YEAR

PAPER I – ELECTROTHERAPHY – I (LOW & MEDIUM FREQUENCY)

Q.P. Code : 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Define Iontophoresis. Type of current used in Iontophoresis. Describe the mechanism of Iontophoresis and its therapeutic uses.
2. What is Biofeedback? Explain in detail about the principle, parameters and uses of Biofeedback.

II. Write notes on: **(10 x 5 = 50)**

1. Physiological effects of Interferential current.
2. Diadynamic current.
3. Electromagnetic Induction.
4. Faradic-IDC test.
5. Chronaxie and Rheobase.
6. TENS.
7. Radial nerve Palsy.
8. Triode Value and its uses.
9. Pain Pathway.
10. Bells Palsy.

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

1. Stimulation of Denervated muscle.
2. Russian current.
3. Joule's Law.
4. Fibrillation potential.
5. Waveform of Faradic current.
6. Skin resistance Test.
7. Erythema.
8. Capacitance.
9. Resting membrane potential.
10. Kinked Curve.

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

[BPT 0921] **SEPTEMBER 2021** **Sub. Code: 6281**
(FEBRUARY 2021 EXAM SESSION)

BPT DEGREE EXAMINATION
THIRD YEAR
(Regulations for the candidates admitted from 2017-2018 onwards)
PAPER I – ELECTROTHERAPHY – I (LOW & MEDIUM FREQUENCY)
Q.P. Code: 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Define Iontophoresis. Write the physical principle of Iontophoresis. Name the ion used in treating idiopathic hyperhydrosis and explain the treatment procedure of the same.
2. Define Wrist drop. Explain in detail the management of the same.

II. Write notes on: **(10 x 5 = 50)**

1. Iontophoresis.
2. Pain modulation.
3. Galvanic tetanus ratio.
4. Methods of application of Ultrasound.
5. Uses of Transformer.
6. Faradic – IDC test.
7. Glidemester effect.
8. Pain gate theory.
9. Functional electrical stimulation.
10. Faradic foot bath.

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

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

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

[BPT 0122] JANUARY 2022 Sub. Code: 6281
(AUGUST 2021 EXAM SESSION)

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR- (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPHY – I (LOW & MEDIUM FREQUENCY)
Q.P. Code : 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Explain in detail the therapeutic and physiological effects, uses, techniques and treatment with Interrupted Direct current.
2. 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.

II. Write notes on: **(10 x 5 = 50)**

1. Pain Gate Theory.
2. Recording Electrodes in EMG.
3. Saturday night Palsy.
4. HVPGC.
5. Faradic foot bath.
6. Diadynamic Currents.
7. Physiological Effects of Alternating Currents.
8. IFT – Parameters and its Effects.
9. Propagation of Action Potential.
10. Iontophoresis.

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

1. Characteristics of Denervated Muscle.
2. Tinel's sign.
3. Types of Electrodes.
4. Fatigue and its causes.
5. Fibrillation Potential.
6. Difference between Bell's Palsy and Facial Palsy.
7. Carpal Tunnel Syndrome.
8. Preparation of patient for ES.
9. Syncopated Rhythm.
10. Glidemeister Effect.

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

[BPT 0622] JUNE 2022 Sub. Code: 6281
(FEBRUARY 2022 EXAM SESSION)

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR- (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPHY – I (LOW & MEDIUM FREQUENCY)
Q.P. Code : 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Explain the Types of Nerve Lesions and assessment of their level and degree using Electrotherapeutics.

2. Define TENS. Describe the parameters, Types, Methods of application, Advantages, Disadvantages and Contraindications of TENS.

II. Write notes on: **(10 x 5 = 50)**

1. Surging of faradic current.
2. Action potential.
3. Brachial plexus injury.
4. Ions used in Iontophoresis and their clinical indications.
5. Fradism under Pressure.
6. Parameters of Interferential therapy.
7. Nerve conduction test.
8. EMG Biofeedback.
9. Medium frequency currents.
10. Pelvic floor stimulation.

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

1. Types of nerve fibers.
2. Bells Palsy.
3. Refractory period.
4. Wallerian degeneration.
5. H-reflex.
6. Father of EMG biofeedback.
7. Lenz law.
8. Neuromuscular junction.
9. Lumbricals and interossei.
10. Dosage of Iontophoresis.

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

[BPT 1022] OCTOBER 2022 Sub. Code: 6281
(AUGUST 2022 EXAM SESSION)

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR- (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)
Q.P. Code : 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Describe in detail about the physiological effects, therapeutic effects, indications and contraindications of Faradic current.

2. Define Interferential therapy. Explain about its different modes, frequency and application for different conditions.

II. Write notes on: **(10 x 5 = 50)**

1. Interrupted Direct current after a tendon transfer in the hand.
2. Pain modulation theories.
3. Constant direct current.
4. Russian currents.
5. Strength Duration curve.
6. Electric shock and earth shock.
7. Preparation of apparatus and patient for electrical stimulation.
8. Seddon's and Sunderland's classification of nerve injuries.
9. Compare constant current stimulator and constant voltage stimulator.
10. Sensory and motor nerve conduction velocity.

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

1. TENS.
2. Skin resistance reduction procedure.
3. Ohm's law.
4. Iontophoresis.
5. Motor point.
6. Uses of transformers.
7. Mention any two anions and two cations producing drugs for Iontophoresis.
8. Faradic Galvanic test.
9. Resistance in series and parallel.
10. EMG biofeedback.

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

[BPT 0423] APRIL 2023 Sub. Code: 6281
(FEBRUARY 2023 EXAM SESSION)

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)

Q.P. Code: 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Describe in detail about Iontophoresis and its treatment procedure.

2. Explain in detail about the therapeutic and physiological effects, uses and techniques of treatment with Interrupted Direct Current.

II. Write notes on: **(10 x 5 = 50)**

1. Electrical stimulation after a tendon transfer.
2. Radial Nerve palsy.
3. Pain Pathway.
4. Interferential current therapy.
5. F wave and H reflex.
6. Deltoid Inhibition.
7. Electric Shock.
8. Diadynamic current.
9. High voltage Pulsed galvanic currents.
10. Faradism under Pressure.

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

1. Capacitance.
2. Semi Conductors.
3. Fuse.
4. Rheobase.
5. Kinked curve.
6. Resting membrane potential.
7. H Reflex.
8. Instructions to be given to a patient before and during Electrical stimulation.
9. Lenz’s Law.
10. Advantages and disadvantages of electrical stimulation.

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

[BPT 1123] NOVEMBER 2023 Sub. Code: 6281
(AUGUST 2023 EXAM SESSION)

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)

Q.P. Code: 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. What is Strength Duration Curve? Discuss in detail about the procedure of doing Strength Duration Curve.

2. Define Biofeedback. Discuss in detail about its advantages and disadvantages.

II. Write notes on: **(10 x 5 = 50)**

1. Faradic foot bath.
2. Deltoid inhibition.
3. Voltmeter.
4. Propagation of Action Potential.
5. Nerve conduction test.
6. Electrotherapy management of Bell's palsy.
7. Sunderland's classification of nerve injuries.
8. Diadynamic current.
9. Wrist drop.
10. Uses of Transformer.

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

1. Refractory period.
2. Wallerian degeneration.
3. Ohm's law.
4. Skin resistance reduction procedure.
5. Nerve conduction velocity.
6. Fuse.
7. Tinel's Sign.
8. Fibrillation Potential.
9. Saturday night Palsy.
10. Pain Modulation.

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

[BPT 0824] **AUGUST 2024** **Sub. Code: 6281**

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION
THIRD YEAR - (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)

Q.P. Code: 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Define Pain, types of Pain. Explain the gate control theory of pain.

2. Define TENS. Describe in detail about the electrodes placement and the effects of TENS.

II. Write notes on: **(10 x 5 = 50)**

1. IFT and its therapeutic effects.
2. Ions used in Iontophoresis.
3. Prevention of shock.
4. Thermionic Valves.
5. Treatment for Ulnar nerve palsy.
6. Define Erb's palsy and its management.
7. Chronaxie, Rheobase and a Kink in S.D Curve.
8. Indication and Therapeutic uses of Biofeedback.
9. High Voltage Pulsed Galvanic current.
10. Foot Drop.

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

1. Russian Currents.
2. Faradism under pressure.
3. Beat frequency.
4. Rheostat.
5. Surging.
6. Diode valves.
7. Hyperalgesia.
8. Functional Electrical Stimulation.
9. Glidemeister effect.
10. Choke coil.

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

[BPT 0225] **FEBRUARY 2025** **Sub. Code: 6281**

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)

Q.P. Code: 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss in detail about the principles and uses of Biofeedback.

2. Discuss in detail about the physiological effects, therapeutic effects, precautions and dangers of Constant Direct current.

II. Write notes on: **(10 x 5 = 50)**

1. Di dynamic currents.
2. Pain modulation theories.
3. Electrical stimulation in neuropraxic foot drop.
4. Bell's palsy.
5. Faradic stimulation of pelvic floor muscles.
6. Indications and contra indications of interrupted direct current.
7. Electromagnetic induction.
8. Iontophoresis.
9. TENS.
10. Faradic Foot Bath.

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

1. Fuse.
2. Synapse.
3. Motor points in face – A diagrammatic representation.
4. Current selection criteria according to the type of nerve injury.
5. Wallerian Degeneration.
6. Define Ampere and Ohm.
7. Tinel's sign.
8. Resistance in series and parallel.
9. FG Test.
10. Russian Currents.

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

[BPT 0825] **AUGUST 2025** **Sub. Code: 6281**

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
THIRD YEAR - (Regulation from 2017-2018 onwards)
PAPER I – ELECTROTHERAPY – I (LOW & MEDIUM FREQUENCY)

Q.P. Code: 746281

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Define Pain. What are the types of Pain? Describe about theories of pain. Add note on modes of TENS used for pain.

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: **(10 x 5 = 50)**

1. Thermionic Valves.
2. Faradism under pressure.
3. Iontophoresis.
4. Wallerian degeneration.
5. Nerve conduction test.
6. Physiological effects of IFT.
7. Describe the clinical implications of SD curve test.
8. Functional electrical stimulation.
9. Explain the different types of waveforms.
10. Uses of biofeedback.

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

1. Tinel's sign.
2. Russian current.
3. Action potential.
4. H-reflex.
5. Joule's law.
6. Bell's palsy.
7. Rheo base.
8. Refractory period.
9. Gildemeister effect.
10. Ape thumb deformity.

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