BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION (B.P.T.), NOVEMBER 1990.

Third Semester

Paper II — PHYSIOTHERAPY — I — (ELECTRO-THERAPY L.F.)

Time : Three hours Maximum : 100 marks

SIX questions are to answered.

Questions 3 and 6 are compulsory and any FOUR remaining questions.

SECTION A

1. State the following laws :

(a) Joule's law.

(b) Law of inverse squares. (8+7 = 15 marks)

2. Give definitions of

(a) Ampere.

(b) [illegible]ometre.

(c) Ohm. (3×5=15 marks)

3. Discuss the processes of Reflection and Refraction. (20 marks)

Write notes on :

(a) Step up transformer.

(b) Triode Valve. (8+7 = 15 marks)

Describe in detail, checking and preparation of equipment and patient before giving electrical stimulations. (15 marks)

5. Draw a diagram showing motor points on extensor aspect of forearm. Discuss technique of stimulation of finger extensors by Interrupted Galvanic Current. (20 marks)

7. Write notes on :

(a) Rheobase.

(b) Faradic foot bath. (8+7 = 15 marks)

Give a description of conducting a strength duration curve test on a muscle.

Draw diagrams showing a normal SD curve, and SD curve in partial reaction of degeneration and complete reaction of degeneration. (7+8 = 15 marks)

096

BACHELOR OF PHYSIOTHERAPY (B.P.T.) DEGREE EXAMINATION, NOVEMBER 1991.

Third Semester

Paper II — PHYSIOTHERAPY—I

(Electrotherapy LF)

Time : Three hours. Maximum : 100 mar

Answer Question No. 1 and any other FIVE questions.

1. Describe faradic and modified faradic currents. Disc physiological effects and indications for faradic type curre (

2. Name the motor points on the face with diagram, an discuss technique of electrical stimulations for a case of fac paralysis. (1

3. Discuss capacitors, capacitance and charging and di charging of capacitors. (16

4. Give definitions of :
   (*a*) Inverse square law.
   (*b*) Ohm. (16

5. Write short notes on any *two* :
   (*a*) Nerve transmission.
   (*b*) Accommodation.
   (*c*) Earth shocks.

Discuss interferential therapy with physiological effects, idications and contraindications. (16)

What is electromagnetic induction ? Discuss direction nd, strength of induced EMF. (16)

Discuss magnets and their properties. (16)

April-1992

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION,
APRIL 1992.

Third Semester — Old Regulations

Paper II — PHYSIOTHERAPY—I

(Electrotherapy L F.)

Time : Three hours. Maximum : 100 marks.

Answer question No. 1 and any FIVE others.

1. Write in detail the physiological and therapeutic effects and uses of modified direct current. (25)

2. What is a condenser ? Discuss in detail about the various factors that determine the capacity of the condenser. (15)

3. What are the likely hazards that can occur in an electrotherapy section and how the same can be prevented (15)

4. Give the definitions of

(a) Coloumb

(b) Henry. (15)

SECTION B — (50 marks)

Answer question No. 8 and any TWO others.

5. What is progressive resisted exercise and why it is necessary to progress an exercise ? (15)

6. Discuss the various aids used for walking training and explain '3' point crutch gait. (15)

7. Give the scheme of exercise to strengthen the muscles of the trunk. (15)

8 Write short notes on :

(a) Levers.

(b) Group exercises.

(c) Kneeling position.

(d) Types of muscle work (20)

November-1993

[PR 631]

Bachelor of Physiotherapy Degree Examination

Semester III New Regulation

LOW AND MEDIUM FREQUENCY

Time : Three hours Maximum : 100 marks

Answer question number 1 and any FIVE

1. Define interferential current. Explain its production and list the indications for its use [25]

2. What is thermionic emission? Draw a neat diagram and explain the construction, working and uses of diode valve [15]

3. Write in detail the physiological and therapeutic effects and uses of modified direct current [15]

4. Draw a diagram of Smart Bristow Faradic coil and discuss its working [15]

5. What is electric shock? Explain its prevention and treatment [15]

6. Write an essay on the electrical activities of the Nerve [15]

7. Define the following : [15]
   (a) Coulomb
   (b) Farad
   (c) Joules law
   (d) Ohms law
   (e) Frequency

8. Write short notes on : [15]
   (a) Charging and Discharging of a capacitor
   (b) Properties of Magnet

April-1994

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION

SEMESTER III NEW REGULATION

PAPER II ELECTROTHERAPY I
LOW AND MEDIUM FREQUENCY

Three hours Max.marks: 100

Answer Question No. 1 and any FIVE

Define in detail FARADIC type current. Explain its production, the physiological effect, indications for use, and techniques of treatment. (25)

Write in detail the physiological and therapeutic effects of T.E.N.S. (15)

Write in detail about strength duration curve. (15)

Write in detail about normal and denervated Muscle. (15)

What is stimulating current. Write about the characteristics of this current and its use. (15)

Write in detail about peripheral Nerve injuries and the method of treatment. (15)

Define the following:

Capacitor (Condensor)
Chronoxie
Motor point
Eddy currents

Draw the schematic representation of Muscle spindle innervation and define

Write short notes on Electric shock. (15)

[ND 788]

Bachelor of Physiotherapy Degree Examination

Third Semester

(Old Regulations)

Paper II - PHYSIOTHERAPY I
(ELECTROTHERAPY LOW FREQUENCY)

Time : Three hours Maximum : 100 marks

Answer Question No. 1 and any 5 others

1. Describe the propagation of electrical impulse along nerve fibres. How does it differ from propagation along muscle fibres. (25)

2 Write notes on any THREE of the following

a) Motor point

b) Electrode choice for muscle stimulation

c) Strength - duration curve for a denervated muscle

d) Chronaxie and rheobase (15)

3. Describe the precautions necessary to ensure patient safety from potential electrical hazards in PT department. (15)

4. Describe the physiological basis for pain relieving effects of :

a) Iontophoresis

b) TENS (15)

5 Write notes on :

a) Voltmeter

b) Transistors

c) Discharge of a condensor (15)

6. Describe the effects of movement of a conductor relative to the magnetic lines of force. (15)

7 What type of current, pulse shape and duration will you select in the following condition and why ?

i) Sciatica

ii) Saturday Night Palsy (of radial nerve)

iii) dis use muscle atrophy (15)

November-1994

:ND 790)

Bachelor of Physiotherapy Degree Examination

Third Semester

(New Regulation)

Paper II - ELECTRO THERAPY -

(Low and Medium Frequency)

Time : Three hours Maximum : 100 marks

Answer Question No1 and any FOUR of the others

1. Describe the physiological basis of pain relieving effects of following, discussing advantages and contraindications

   a) Iontophoresis

   b) TENS

   c) Interferential current Therapy

   d) Surgical Faradic current (40)

2. Describe the characteristic of SDC in normal and denervated muscle. (15)

3. Describe the general structure of electrical pulse generators. (15)

4. Write notes on any THREE :

   a) Electrodes in electromyography

   b) Motor unit action potential

   c) Electrical excitability of muscle tissue

   d) Motar point.

5 Describe the potential sources of ele hazards in the P. T. department and the nec safety precautions.

6 Write notes on :

   a) Voltmeter

   b) Electromagnetic Inductance

   c) Transistor

November-1995

[MB 907]

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION.

(New/Revised Regulations)

Third Semester

Paper II – ELECTRO THERAPY – I

(LOW AND MEDIUM FREQUENCY)

Time : Three hours Maximum : 100 marks

Answer Question No.1 and any FOUR of the others.

1. What are the therapeutic effects with reference to indications and contra-indications in case of

(a) Interupted Galvanic current.

(b) Surged Faradism

(c) Zinc ionisation.

(d) Interferential therapy. (40)

2. Discuss uses of valves/transistors in electrotherapy explaining their mechanism. (15)

3. Discuss reaction of degeneration. How the P.R.D. is detected by S.D. curve? (15)

4. Describe in brief.

(a) Electrotonus. (8

(b) Chemical burns and the types of electrical stimuli and other measures to eliminate them. (7)

[MB 907]

5. Write short notes on : (3 × 5 = 15)

(a) Nerve conduction.

(b) Neuropraxia.

(c) Accomodation.

6. What is Walerian degeneration? Draw a strength duration curve after 3 days; 3 weaks; and 3 months of nerve injury. (15)

[AK 907]

BACHELOR OF PHYSIOTHERAPY
DEGREE EXAMINATION.

(New/Revised Regulations)

Third Semester

Paper II — ELECTROTHERAPY — I

(LOW AND MEDIUM FREQUENCY)

Time : Three hours Maximum : 100 marks

Answer Section A and B in separate answer books.

SECTION A — (50 marks)

Write an essay on any ONE of the following : (14)

(a) Write briefly about modified faradic currents and discuss their physiological effects.

(b) Discuss how electrolytic burn can occur during constant current treatment. What precautions you will adopt to prevent the occurance of a burn?

Write brief answers on any TWO of the following : (2 × 8 = 16)

(a) Functions of the transformer.

(b) Properties of a magnet.

(c) Faradic – Galvanic test.

3. Write short notes on any FIVE of the follow (5 × 4) 3.

(a) Nerve conductivity.

(b) Chronaxie.

(c) Peripheral nerve lesions.

(d) Electric field.

(e) Structure of an atom.

(f) Ohm's law.

(g) Joule's law.

SECTION B — (50 marks)

1. Write an essay on any ONE of the follow

(a) Electrical stimulation of nerve and muscle.

(b) Devices used for regulation of current.

2. Write brief answers on any TWO of the follow (2 × 8

(a) Electro magnetic induction.

(b) Thermionic valves.

(c) Power plugs.

[AK 907]

3. Write short notes on any FIVE of the following : (5 × 4 = 20)

(a) Switches.

(b) Motor points.

(c) Variable condenser.

(d) Lenz's law.

(e) Eddy currents.

(f) Conductors and non conductors of electricity.

(g) Rectification of an alternating current.

October-1996

[PK 905]

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION.

Third Semester

(New/Revised Regulations)

Paper II — ELECTROTHERAPY – I
(Low and Medium Frequency)

Time : Three hours Maximum : 100 marks

Answer Sections A and B in separate answer books.

SECTION A — (50 marks)

1. Write an essay on any ONE of the following

(a) State the currents you will choose in the following conditions, and discuss the type, duration, shape and frequency of them.

(i) Axonotmests – 8 weeks duration.

(ii) Neuropraxia – 21 days duration.

Give reasons for your choice.

(b) Discuss the physiological effects of interrupted galvanic current and the indications for use of interrupted galvanic current. (14)

2. Write brief answers on any TWO of the following :

(a) Technique of faradism under pressure.

(b) Magnetic effect of an electric current.

(c) Resistance in parallel. (2 × 8 = 16)

3. Write short notes on any FIVE of the following :

(a) Rheobase.

(b) Earth shock.

(c) Power circuit.

(d) Stages of nerve degeneration.

(e) Training of muscle for a new action after tendon transfer.

(f) Characteristics of denervated muscle

(g) Auto transformer (5 × 4 = 20)

SECTION B — (50 marks)

4. Write an essay on any ONE of the following :

(a) Describe the technique of performing electro diagnostic test by the plotting of strength – duration curve.

(b) List down the causes for electric shock.

Discuss the treatment/management of a patient who had an electric shock.

What precautions you may adopt towards prevention of electric shocks? (14)

5. Write brief answers on any TWO of the following :

(a) Units of current electricity.

(b) Fuses.

(c) Faradic foot bath to stimulate intrinsic muscles of the foot (2 × 8 = 16)

6. Write short notes on any FIVE of the following

(a) Accomodation.

(b) Electromyography.

(c) Ionisation

(d) Types and uses of condensers.

(e) Surger.

(f) Milliammeter.

(g) Difference of potential. (5 × 4 = 20)

October-1997

[MS 905]

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION.

Third Semester

(Revised Regulations)

Paper II — ELECTROTHERAPY — I

(Low and Medium frequency)

Time : Three hours Maximum : 100 marks

Answer Sections A and B in separate answer books.

SECTION A

Write an essay on any ONE of the following : (20)

(a) Technique of muscle stimulation by Faradism.

(b) Physiological effects of modified direct current.

Write short notes on any SIX : (6 × 5 = 30)

(a) Fuse.

(b) Switch

(c) Surger

(d) Units of current electricity.

(e) Electromagnetic induction.

(f) Fatigue test.

(g) Electromyography.

(h) Stages of nerve denervation.

[MS 905]

SECTION B

3. Write an essay on any ONE of the following : (20)

(a) Discuss the safety devices used in a low frequency apparatus and briefly describe them.

(b) Technique of performing strength–duration test for a patient with peripheral nerve lesion towards assessment.

4. Write short notes on any SIX : (6 × 5 = 30)

(a) Thermionic valves.

(b) Smart–Bestow faradic coil.

(c) Condenser.

(d) Accommodation.

(e) Rheobase.

(f) Skin resistance.

(g) Hyperhydrosis.

(h) Ohm's law and its application to D.C. and A.C. currents.

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[SV 905] **Sub. Code : 5132**

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION.

Third Semester

(Revised Regulations)

Paper II — ELECTROTHERAPY — I

(LOW AND MEDIUM FREQUENCY)

Time : Three hours Maximum : 100 marks

Answer Sections A and B in separate answer books.

SECTION A

1. Write an essay on any ONE of the following : (20 marks)

(a) Electrodiagnosis by EMG and nerve conduction.

(b) Define Interferantial current. Explain its technique and uses of treatment in a case of low back ache.

2. Write short notes on any SIX : (6 × 5 = 30 marks)

(a) Voltmeter.

(b) Step down transformer.

(c) Potential difference.

(d) Facial nerve palsy types and sites.

(e) Triod valve.

(f) A kinked curve.

(g) Tens.

(h) Chronasia Rheobase.

SECTION B

3. Write an essay on any ONE of the following : (20 marks)

(a) Describe the technique of application of the low frequency current in the treatment of odematous limb.

(b) What are the causes of burns which can occur during the treatment of low frequency current? How will you prevent them?

4. Write short notes on any SIX : (6 × 5 = 30 marks)

(a) Care of the Electrotherapy apparatus.

(b) Paralysis of small muscles in hand.

(c) Size of electrodes.

(d) Transmission of electricity through liquids.

(e) Fatigue test.

(f) Choke coil.

(g) Myeline degeneration.

(h) Iontophoresis — principles.

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[SG 905]

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION.

Third Semester

(Revised Regulations)

Paper II — ELECTROTHERAPY — I

(LOW AND MEDIUM FREQUENCY)

Time : Three hours Maximum : 100 marks

Answer Sections A and B in separate answer books.

SECTION A

1. Describe in detail about any ONE of the following (20)

(a) Electrodiagnostic tests in peripheral nerve injury.

(b) What is Faradism, write therapeutic effects of faradic current.

2. Write short notes on any SIX : (6 × 5 = 30)

(a) Wallerian Degeneration

(b) Accommodation

(c) Effects of Galvanic current on Denervated muscle

(d) Potential divider

(e) Galvanic burn

(f) Eddy current

(g) Selective pulses

(h) Self induced EMF.

SECTION B

3. Write in detail about any ONE of the following : (20)

(a) How to obtain a current for the treatment of a patient from 220–240 V.AC?

(b) Physiological and Therapeutic effects of Galvanic current.

4. Write short notes on any SIX of the following : (6 × 5 = 30)

(a) Nerve impulse

(b) Condenser

(c) Effects of positive ions in ionisation

(d) Muscle fatigue

(e) Electromyography

(f) Interrupted direct current

(g) Semiconductor

(h) Earth shock.

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April-2000

[KB 908] Sub. Code 513

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION.

Third Semester/Fifth Semester

(Revised Regulations/Modified Regulations)

Paper II — ELECTROTHERAPY — I

(LOW AND MEDIUM FREQUENCY)

Time Three hours Maximum : 100 marks

Answer Section A and B in separate answer books

SECTION A

Write in detail any ONE of the following (20

(a) What is a condenser? Explain the charging discharging and uses of it.

(b) Define Faradic type of current. Explain its physiological and therapeutic effect with the indication and contra-indication.

Write short notes on any SIX (6 × 5 = 3

(a) Eddy current

(b) Chronaxie and Rheobase

(c) Joule's Law

(d) Triode valve

(e) Refraction

(f) Ohm's law

(g) Capacitor in parallel and series connection

(h) Vant Hoff's law.

SECTION B

3. Answer any ONE of the following 20)

(a) Write the selection of current, pulse shape, duration, indication and contra-indication for the following conditions.

(i) Axonotmesis of ulnar nerve one month duration

(ii) Intrinsic foot muscle paralysis

(iii) Facial Palsy.

(b) What is a strength-duration curve? Explain its various types with diagram

Write short notes on any SIX of the following : (6 × 5 = 30)

(a) Faraday's Law of Electromagnetic inductio

(b) Nerve-conduction Test

c) Sinusoidal current

(d) Motor points

(e) Inverse square law

(f) Fatigue Test

(g) Properties of a magnet

(h) Axonotmesis.

[KC 908] **Sub. Code : 5132**

BACHELOR OF PHYSIOTHERAPY DEGREE EXAMINATION.

Third Semester/Fifth Semester

(Revised Regulations/Modified Regulations)

Paper II — ELECTROTHERAPY — I

(LOW AND MEDIUM FREQUENCY)

Time : Three hours DEC. 2000 Maximum : 100 marks

Answer Section A and B in separate Answer Books

SECTION A

1. Write in detail any ONE of the following : (1 × 20 = 20)

(a) Define interrupted galvanism Explain its physiological and therapeutic effects.

(b) What is shock? Explain the causes, treatment and precautions for the shock.

2. Write short notes on any SIX : (6 × 5 = 30)

(a) Fuse in your department

(b) Contra-indications for Electrical Stimulations

(c) Millammeter

(d) Treatment for Neuroproxia of Radial nerve

(e) Uses of Interferential therapy

(f) Skin Resistance Lowering Tray

(g) Properties of normal and denervated muscle

(h) Faradic – Galvanic Test and its uses.

SECTION B

3. Write in detail any ONE of the following : (1 × 20 = 20)

(a) Describe the technique of application of low frequency current in the treatment of oliematons limb.

(b) Explain strength duration curve. Can you explain the nerve position from the day of onset to recovery in compression injury.

4. Write any SIX of the following : (6 × 5 = 30)

(a) Uses of Electrical Stimulation

(b) Electric burns and its prevention

(c) Voltmeter and its uses

(d) Fatigue Test

(e) Nerve injuries

(f) Treatment for Bell's palsy

(g) Insulation

(h) Sinusoidal current.