

[KD 914]

Sub. Code : 5147

BACHELOR OF PHYSIOTHERAPY DEGREE  
EXAMINATION.

Fourth/Fifth Semester (M.R.)

(Revised Regulations)

Paper II — ELECTROTHERAPY — II

(High Frequency)

Time : Three hours

Maximum : 100 marks

Answer any TWO of the following : (20)

- (a) How the heat is produced in high frequency?
- (b) Explain the construction and working of shortwave diathermy apparatus.
- (c) Describe the physiological, therapeutic effects of ultrasound.

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

- (a) Laws Governing Radiation.
- (b) Piezo-electric effect.
- (c) Coupling media.
- (d) Spacing and its significance.

- (e) Contra-indications for Microwave diathermy.
- (f) Choice of treatment for osteoarthritis knee.
- (g) Physiological effects of Ice.

3. Answer any TWO of the following : (2 × 10 = 20)

- (a) Therapeutic and physiological effects of shortwave diathermy.
- (b) Explain the construction, types, working and use of transformer.
- (c) Explain the choice of treatment for the following with reasons :

- (i) Lateral ligament sprain of ankle from acute to chronic.
- (ii) Lateral epicondylitis of elbow.

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

- (a) Sensitizers.
- (b) Pulsed shortwave.
- (c) Physical properties of wax.
- (d) Co-planar method and its uses.
- (e) Cavitation and its prevention.
- (f) Electromagnetic spectrum.
- (g) How Joule's law is applicable in high frequency treatment?

[KE 914]

Sub. Code : 5147

BACHELOR OF PHYSIOTHERAPY DEGREE  
EXAMINATION.

Fourth/Fifth Semester

(Revised/Modified Regulations)

Paper II — ELECTROTHERAPY — II

(High Frequency)

Time : Three hours

Maximum : 100 marks

1. Answer any TWO of the following : (20)

(a) Discuss ultrasound production with description of

Beam nonuniformity ratio

Mark space ratio

Near and far field.

(b) Describe in detail about pulsed electromagnetic energy and its effect on fracture healing.

(c) Measurement of minimal Erythema dosage in UVR and use of UVR in

(i) Pressure sore

(ii) Acne vulgaris

(iii) Psoriasis.

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

(a) Condensor field method

(b) Types of heat transmission with examples

(c) Argon Neon LASER

(d) Inductothermy

(e) Indications of cryotherapy

(f) Coupling media

(g) Dose reduction in UVR.

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

(a) Describe oscillation and explain 'Capacitance' and 'Inductance' with an example in oscillating system. Add a note on damping oscillation.

(b) Describe Wax bath with explanation of various techniques of application and its effects.

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

(a) Electromagnetic spectrum

(b) Compare the effects of microwave radiation with infra red radiation

(c) Use of UVR in Alopecia

(d) Ice packs

(e) Rickets and UVR

(f) Sciatica

(g) Direct contact method in ultrasound.

March-2002

[KG 914]

-Sub. Code : 5147

BACHELOR OF PHYSIOTHERAPY DEGREE  
EXAMINATION.

Fourth/Fifth Semester

(Revised/Modified Regulations)

Paper II — ELECTROTHERAPY — II

(High Frequency)

Time : Three hours

Maximum : 100 marks

1. Answer any TWO of the following : (2 × 10 = 20)

(a) What is the most common ligament which is involved in lateral ligament sprain of ankle and describe the principles of ultrasonic therapy in treatment?

(b) Biophysics in LASER and LASER therapy in soft tissue injuries.

(c) What are the superficial heats? Describe the general and specific effects of it and add a note on IRR in low Back pain.

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

- (a) Ohm's and Coulombs law
- (b) Filters used in ultra-violet rays
- (c) Ethylene dioxide spray
- (d) Hydrocollator packs
- (e) Fluidotherapy
- (f) Pulsed shortwave diathermy
- (g) Electric Grid.

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

(a) Discuss the various modalities that can be used in different stages of P.A. shoulder and discuss briefly the home programme.

(b) Discuss PUVA therapy in Psoriasis and write notes on narrow band UVB in the treatment of Psoriasis.

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

- (a) LASER in wound healing
- (b) Ice in spasticity
- (c) Cosine law

(d) Difference between erythema seen in UVR

(e) Discuss briefly diet before UVR therapy

(f) Water bag technique

(g) Remodelling and Ultrasound.

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September-2002

**[KH 914]**

**Sub. Code : 5147**

**BACHELOR OF PHYSIOTHERAPY  
DEGREE EXAMINATION.**

**Fourth/Fifth Semester**

**(Revised/Modified Regulations)**

**Paper II — ELECTROTHERAPY — II**

**(High Frequency)**

**Time : Three hours**

**Maximum : 100 marks**

**1. Answer any TWO of the following : (2 × 10 = 20)**

(a) Physical principles; Physiological effects and uses of cryotherapy.

(b) Indication, contra-indication and dangers of short wave diathermy.

(c) Pain Gate Theory. Effects of Transcutaneous Electrical Nerve Stimulation.

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

(a) Piezo-electric effect

(b) Discuss briefly on rectifiers

(c) Uses of short wave diathermy September-2002

(d) Technique of application of microwave diathermy

(e) Define electricity. Briefly describe the types of electricity

(f) Dangers of Interferential Therapy

(g) Effects of Wax bath

(h) Electromagnetic induction.

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

(a) Discuss the physiotherapeutic modality for the following conditions; write the dosage and methods of application :

(i) periarthrits shoulder

(ii) acute bed sore

(iii) ankle sprain.

(b) Therapeutic uses, physiological effects, indications contra-indications of infrared radiation.

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

(a) coupling media

(b) precautions to be taken while using laser therapy

(c) condenser field method of short wave diathermy

(d) fuse and grid — uses

(e) pulsed diathermy—indications and contr indications

(f) electromagnetic spectrum

(g) uses of ultra sound

(h) effects and indications of moist heat therapy.

April-2003

[KI 914]

Sub. Code : 5147

BACHELOR OF PHYSIOTHERAPY  
DEGREE EXAMINATION.

Fourth/Fifth Semester

(Revised/Modified Regulations)

Paper II — ELECTRO THERAPY — II  
(HIGH FREQUENCY)

Time : Three hours

Maximum : 100 marks

1. Answer any TWO of the following :  $(2 \times 10 = 20)$

(a) Explain with diagram production and working of micro wave diathermy, outline its applications, physiological effects.

(b) Calculation of erythmal dose

(i) Bed sore

(ii) ACNE

(iii) Psoriasis.

(c) Define interferential current, discuss its production, principle, physiological effects and therapeutic uses.

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

- (a) Helium Neon Laser
- (b) Capacitor field method
- (c) Doses in UVR
- (d) Lewis hunting reaction
- (e) Immersion method in cryotherapy
- (f) Pulsed ultrasound
- (g) Indications and contra indications of IRR
- (h) Electric arc.

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

(a) Compare between Infrared radiation, ultraviolet radiation, laser on the following aspects :

- (i) Physiological and therapeutic effects
- (ii) Principle of working
- (iii) Indications for Treatment.

(b) Describe the uses of cryotherapy with explanation of various techniques of application and rationale for each.

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

- (a) Piezo – electric effect
- (b) Tridymite formation
- (c) Specificity theory
- (d) Paraffin wax

(e) Properties of High frequency currents  
outline them

Writ

- (f) Resonating circuit
- (g) Magnetic field
- (h) Fuse and GRID.

[KL 914]

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BACHELOR OF PHYSIOTHERAPY DEGREE  
EXAMINATION.

Fourth Semester

(Revised Regulations)

Paper II — ELECTROTHERAPY — II

(HIGH FREQUENCY)

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. Write Essay : (2 × 15 = 30)

1. Explain in detail about the production, properties and uses of ultrasound.
2. Explain in detail the technique of application of ultra-violet radiation for a case of Alopacia Totalis.

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

- (a) Test dose in ultra-violet radiation.
- (b) Cryotherapy.
- (c) Therapeutic effects of short-wave diathermy.
- (d) Coupling Media.
- (e) Danger in ultra-violet radiation.
- (f) Moist heat.
- (g) Care of ultra-violet lamp.
- (h) Thermal effect of ultrasound on tissues.
- (i) Physiological effects of infra-red radiation.
- (j) Condenser field method in short-wave diathermy.