



63115

First B.P.T.H. (2012) Examination, Summer 2017
FUNDAMENTALS OF ELECTRO THERAPY

Total Duration : Section A + B = 3 Hours

Total Marks : 80

SECTION – A and SECTION – B

- Instructions:**
- 1) Use **blue/black** ball point pen only.
 - 2) **Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.
 - 3) **All questions are compulsory.**
 - 4) The number to the **right** indicates **full marks**.
 - 5) Draw diagrams **wherever necessary**.
 - 6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
 - 7) Use a common answerbook for **all Sections**.

SECTION – A SAQ (50 Marks)

1. Short answer question (any five out of six) : (5×3=15)
 - a) State Ohms Law.
 - b) Define capacitance and state its unit.
 - c) State Cosine law.
 - d) State construction of triode valves.
 - e) Define Resting membrane potential.
 - f) Write the production of luminous Infra-red Radiation lamp.

2. Short answer question (any five out of six) : (5×7=35)
 - a) State the importance of earthing. Add a note on earth shock.
 - b) State the factors affecting skin resistance. Describe methods to reduce skin resistance.
 - c) Differentiate between Faradic current and Galvanic current.
 - d) Enlist the functions of Transformers. Describe the types of Transformers.
 - e) Describe methods of applications of Paraffin Wax Bath.
 - f) Describe construction and working of High Pressure Mercury Vapor Burner lamp.

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SECTION – B LAQ (30 Marks)

3. Long answer question (any one out of two) :

a) Define specific heat. Describe therapeutic effects of Cryotherapy. Describe various methods of applications of Cryotherapy. (1×15=15)

b) Describe various methods of heat transfer. Describe physiological effects of Hydrocolator pack. Describe the construction of Hydrocolator pack. (2+6+7)

4. Long answer question (any one out of two) :

a) Describe the production of Ultra Sound. Draw a panel diagram of Ultra Sound. (10+5)

b) State the therapeutic frequency and wave length of short wave diathermy. Describe the production of Short Wave Diathermy. Draw panel diagram of Short Wave Diathermy. (2+8+5)

First B.P.Th. (2012) Examination, Winter 2016
FUNDAMENTALS OF ELECTRO THERAPY

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SECTION – A & SECTION – B

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SECTION – A SAQ (50 Marks)

1. Short answer question (any five out of six) : (5×3=15)
 - a) State Ohms Law.
 - b) What is Electromagnetic Induction ?
 - c) Define Latent Heat and give example where concept of Latent Heat is used for practical application in physiotherapy.
 - d) What is a Fuse and how does it work ?
 - e) State contraindications for Hydrocollateral hot pack treatment.
 - f) State factors affecting skin resistance.
2. Short answer question (any five out of six) : (5×7=35)
 - a) Describe Earth Shock with example. What precautions can be taken against it ?
 - b) State and explain Laws of Reflection, Refraction and Absorption.

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- c) Describe types of Infra-red Generators.
- d) What is LASER ? Describe its types and properties.
- e) Describe production of Ultrasound.
- f) Describe Ultraviolet Radiation production in High Pressure Mercury Vapor Bulb.

SECTION – B LAQ (30 Marks)

3. Long answer question (any one out of two) : (1x)
- a) Describe physiological effects of Cryotherapy. Describe various methods of applying cryotherapy. (i)
 - b) Describe physiological effects of Superficial Heat. Describe various methods of applying Paraffin Wax Bath. (1x15=)
4. Long answer question (any one out of two) : (5+5=)
- a) Classify Low Frequency Currents. Describe different wave forms of Faradic current. Draw and label a panel diagram of Diagnostic Electrical Stimulator. (10+5)
 - b) Describe construction and production of Short Wave Diathermy. Draw and label a panel diagram of Short Wave Diathermy.



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SECTION – A SAQ (50 Marks)

1. Short answer question (**any five** out of six) : (5×3=15)
 - a) Cosine Law.
 - b) Contrast Bath.
 - c) Capacitance.
 - d) Joule's Law.
 - e) Amplitude modulation in interferential therapy.
 - f) Precautions for application of thermotherapy.

2. Short answer question (**any five** out of six) : (5×7=35)
 - a) Classification of currents.
 - b) Define TENS. Write down its types.
 - c) Sources of infrared radiations.
 - d) Modes of heat transfer.
 - e) Whirlpool bath.
 - f) What are the types of LASER ? Write its properties.

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SECTION - B LAQ (30 Marks)

3. Long answer question (any one out of two) : (1×15=15)
- What is cryotherapy ? Write down various methods and the techniques of its application.
 - Explain the production of UVR with a labelled diagram. Add a note on tridymite formation.

4. Long answer question (any one out of two) : (1×15=15)
- Draw a panel diagram of therapeutic ultra sound and explain its production. Add a note on coupling media.
 - Draw a circuit diagram of Short Wave Diathermy. Write down the physiological effects and dangers of Short Wave Diathermy.

→ Connecture in Q. No. 4(b) as under :- →

4. b) Draw a circuit diagram of Short Wave Diathermy and explain its production.



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First BPTH (2012), Winter 2015
Fundamentals of Electro Therapy - V

Total Duration : Section A + B = 3 Hours

Total Marks : 80

Section - A & Section - B

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Section "A" SAQ (50 Marks)

(5x3=15)

1. Short answer question (any five out of six) :

- a) Define Fuse.
- b) Define Ohm's Law.
- c) Define Latent heat.
- d) Define Piezo electric effect.
- e) Discuss importance of earthing.
- f) Define triode and diode valve.

(5x7=35)

2. Short answer question (any five out of six) :

- a) Explain Therapeutic effects of superficial heat.
- b) What is Electrical skin resistance ? Explain its causes & effects.
- c) Write the characteristics and types of LASER.
- d) Discuss production of electro magnetic induction.
- e) Explain the types and function of transformers.
- f) Describe whirl pool bath.

Section "B" LAQ (30 Marks)

(1x15=15)

3. Long answer question (any one out of two) :

(10+5)

- a) Explain the production of SWD. Draw a neat labeled panel diagram of SWD
- b) Write physical characteristics of Infrared radiations. Write about production of luminous and non luminous IR. Write contraindications to Infrared treatment.

(2+8+5)

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4. Long answer question (any one out of two) :

- a) What is faradic current ? Explain the duration and frequency of faradic current. Explain the different types of waveforms of electric current.
- b) Discuss therapeutic and physiological effects of contras bath. Write about its indications and containdications.

(1x15=15)

(3+6+6)

(8+7)

First B.P.TH. (2012) Examination, Summer 2015
FUNDAMENTALS OF ELECTRO THERAPY – V

Total Duration : Section A + B = 3 Hours

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 - 7) Use a common answer book for **all** Sections.

(50 Marks)

SECTION – A
 (SAQ)

(5×3=15)

1. Short answer question (**any five** out of six) :

- a) Define specific heat.
- b) Explain Thermionic valves.
- c) Define Latent heat.
- d) Define grothus law.
- e) Define coupling media.
- f) Describe characteristics of laser.

(5×7=35)

2. Short answer question (**any five** out of six) :

- a) Explain different laws governing radiation.
- b) Explain the surging and pulse width modulation of faradic type current.

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- c) Discuss physiological effects and methods of application of hydro-collator packs.
- d) Discuss luminous and non luminous generators in IRR.
- e) Discuss various field risk factors on prolong exposure to Electro magnetic field.
- f) Discuss duration, frequency and waveforms of interrupted galvanic current.

SECTION – B
(LAQ)

(30 Marks)

3. Long answer question (**any one** out of two) : (1×15=15)
- a) Write down the physiological effects of cryotherapy. Explain methods of application of cryotherapy. Also, write down the contraindications of cryotherapy. (5+5+5)
 - b) Explain in detail about paraffin wax bath. Write down the various methods of application of paraffin wax bath. Add a note on its contraindications. (5+5+5)
4. Long answer question (**any one** out of two) : (1×15=15)
- a) Describe the production of U.V.R. Draw its panel diagram. Also, write about its testing of apparatus. (8+4+3)
 - b) Draw a neat labelled diagram showing production of S.W.D and explain it in detail. Also, add a note on effects of high frequency currents on tissue. (8+7)
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