

MGM INSTITUTE OF HEALTH SCIENCES, NAVI MUMBAI
I BPT UNIVERSITY EXAMINATION, JULY - 2016

Subject – Fundamentals of Electro Therapy

Maximum Marks: 80
Duration – 3 Hours
(Section A = 10 Minutes)

INSTRUCTIONS:

1. Attempt all questions
2. Maximum marks are indicated in the right
3. Illustrate the answers with suitable diagrams wherever necessary
4. Please surrender your SWITCHED OFF cell phones at entry point to the Examination Hall
5. Mobile phones, pagers, blue tooth or any other such communication devices are not allowed in the Examination premises and in all adjacent area

SECTION – A

Q.1. Short Answer Question (Any FIVE) (5×3 Marks)

15 Marks

- A. Write about the physical principles/ physical properties of LASER
- B. What is Phonophoresis?
- C. Name/ List down different methods of application in Short Wave Diathermy?
- D. What are thermionic valves and its uses?
- E. List the methods used to reduce skin resistance?
- F. Explain Eddy currents?

Q.2. Short Answer Question (Any FIVE) (5×7 Marks)

35 Marks

- A. What are the applicators used in SWD and describe each of them.
- B. List the various types of TENS and give the features of each type of TENS and their therapeutic uses.
- C. List the indications and advantages of Whirlpool bath.
- D. Describe physiological effects of heat therapy
- E. Explain the production of LASER
- F. Write about different types of ultraviolet generators and explain with diagrams.

SECTION – B

Q.1. Long Answer Question (Any ONE)

15 Marks

- A. Give the principles of wax therapy. Explain the different types of application of wax.
- B. What is Lewis hunting reaction? Explain the different techniques of application of cryotherapy? Add a note on dangers of cryotherapy.

Q.2. Long Answer Question (Any ONE)

15 Marks

- A. Describe the principles and production of short wave diathermy (SWD). Draw front panel of a typical SWD machine and label it.
- B. Explain the production of interferential currents (IFC). Enumerate the types of IFC.

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SECTION – A

Q.1. Short Answer Question (Any FIVE) (5×3 Marks)

15 Marks

- A. Describe structure of an atom
- B. Define Electric shock.
- C. Describe Electro magnetic field (EMF)
- D. Describe Eddy currents.
- E. What is infrasonics
- F. Define LASER

Q.2. Short Answer Question (Any FIVE) (5×7 Marks)

35 Marks

- A. Explain in brief about application of Hydrocollatar packs.
- B. Production of LASER.
- C. Laws governing Electro Magnetic Radiations (EMR)
- D. Characteristic of sound waves and their velocities.
- E. Explain semiconductors and its types.
- F. Properties of electric lines of forces.

SECTION – B

Q.1. Long Answer Question (Any ONE)

15 Marks

- A. Explain in detail about paraffin wax bath. Therapeutic uses. Indications and contraindications of PWB. (5+5+5 =15 Marks)
- B. Explain in details about electromagnetic spectrum. Laws of transmission and electromagnetic radiation. (5+5+5 =15 Marks)

P.T.O.

Q.2. Long Answer Question (Any ONE)

15 Marks

- A. Explain in detail about Electro magnetic induction.
 - i. Production
 - ii. Direction of the induced EMF. (5+5+5 =15 Marks)
- B. Define shock and explain in detail.
 - i. Types of shock
 - ii. Severity of shock (5+5+5 =15 Marks)

MGM INSTITUTE OF HEALTH SCIENCES, NAVI MUMBAI
I BPT UNIVERSITY SUPPLEMENTARY EXAMINATION, DECEMBER – 2017

Subject – **Fundamentals of Electro Therapy**

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Duration – **3 Hours**
(Section A = 10 Minutes)

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SECTION – A

Q.1. Short Answer Question (Any FIVE) (5×3 Marks)

15 Marks

- A. Describe types of transformer?
- B. Describe Power plugs
- C. Define beat frequency
- D. What is mark space ratio?
- E. Describe Eddy current
- F. Define Piezo-electric effect

Q.2. Short Answer Question (Any FIVE) (5×7 Marks)

35 Marks

- A. Describe Kromayer lamp
- B. Explain Lewis hunting reaction
- C. Properties of LASER
- D. Contrast baths and its method of application
- E. Describe method of application Ice pack method
- F. Differentiate between the luminous and non-luminous infra rays.

SECTION – B

Q.1. Long Answer Question (Any ONE)

15 Marks

- A. What are the different types of electrical tests done in electrotherapy department? Write about the electrical safety features in an electrotherapy lab.
- B. List the various superficial and deep heating modalities. Discuss in detail the physiological and therapeutic effects of heat.

Q.2. Long Answer Question (Any ONE)

15 Marks

- A. What is ultra sound therapy & how is it produced? Draw the panel diagram of ultrasound machine. Describe the procedures for testing it.
- B. Define oscillation. What is capacitance and inductance? Give an example of an oscillating system. How does energy transfer between two circuits take place in shortwave diathermy?

MGM INSTITUTE OF HEALTH SCIENCES, NAVI MUMBAI
IBPT UNIVERSITY EXAMINATION, JULY - 2018

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SECTION – A

15 Marks

Q.1. Short Answer Question (Any FIVE) (5×3 Marks)

- A. Write about buoyancy.
- B. Explain fuse
- C. Write different types of capacitors
- D. Write about power plugs
- E. Write about an oscillatory circuit
- F. List down the methods of paraffin was application.

35 Marks

Q.2. Short Answer Question (Any FIVE) (5×7 Marks)

- A. Explain different types of therapeutic ultraviolet lamps
- B. Write in detail production of LASER
- C. Write the laws governing radiation
- D. Explain modified types of therapeutic direct currents
- E. Write the production of luminous Infra-red generators
- F. What is transformer? What are the uses of transformer? Write types of transformers with its construction.

SECTION – B

Q.1. Long Answer Question (Any ONE)

15 Marks

- A. What is Thermotherapy? Write Physiological effects of heat. Explain hydrocollator unit with a diagram. 3+6+6
- B. What is cryotherapy? Explain Physiological effects of cryotherapy. Write about vapocoolant sprays and its technique of application.

Q.2. Long Answer Question (Any ONE)

15 Marks

- A. Discuss the production of interferential therapy (IFT). Discuss the Rotating vector system in IFT. Write about pre-modulated IFT. 5+5+5
- B. Explain the production of shortwave diathermy (SWD) with a circuit diagram. Draw and explain the purpose of each knob on the front panel of a traditional SWD machine. 8+7

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SECTION – A

Q.1. Short Answer Question (Any FIVE) (5×3 Marks)

15 Marks

- A. What are the enumerate properties of LASER
- B. Explain a triode valve
- C. What are the voltage and frequency standards of power supply in India?
- D. Lewis hunting reaction in cryotherapy
- E. List down the types of therapeutic ultraviolet lamps
- F. Write briefly about electro magnetic spectrum

Q.2. Short Answer Question (Any FIVE) (5×7 Marks)

35 Marks

- A. Write about contrast bath
- B. Explain the methods of paraffin wax application
- C. Methods of testing of Ultra Sound equipment
- D. Write about cold sprays and its application procedure
- E. Write the production of high frequency current in shortwave diathermy
- F. Write about physiological effects of Ultra Violet Rays (UVR)

SECTION – B

Q.1. Long Answer Question (Any ONE)

15 Marks

- A. Write in detail production of LASER. Explain different types of LASER used in physiotherapy
- B. What are the differences between the terms Cryotherapy, Thermotherapy, and Hydrotherapy? Compare physiological effects of cryotherapy and thermotherapy

Q.2. Long Answer Question (Any ONE)

15 Marks

- A. Discuss how beat frequency produced in interferential therapy (IFT). Explain the principle of using the sweep in IFT.
- B. Explain about various low frequency currents used in physiotherapy. Discuss safety precautions for the use of electrotherapy