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**First B.P.T.H. (2012) Examination, (Phase - III) Winter - 2021**  
**FUNDAMENTALS OF ELECTRO THERAPY**

Total Duration : 3 Hours

Total Marks : 80

- 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 answer book for all sections.

**SECTION "A" SAQ (50 Marks)**

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

[5 × 3 = 15]

- a) Latent heat of fusion.
- b) Laws of radiation.
- c) Types of TENS.
- d) Types of capacitors.
- e) Uses of fuse.
- f) Beat frequency.

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

[5 × 7 = 35]

- a) Types and functions of transformer.
- b) Electrical skin resistance.
- c) Different types of Ultra Violet Radiation Lamps.
- d) Production of Ultra Sound waves.
- e) Explain Electric Shock. Write its causes.
- f) What are the different types of LASER. Explain its properties.

**SECTION "B" LAQ (30 Marks)**

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

[1 × 15 = 15]

- a) Discuss physiological effects of superficial heat. Describe therapeutic uses of Paraffin Wax Bath. Write merits and demerits of Paraffin Wax Bath.
- b) Write physiological effects of cold. Describe methods of application of cryotherapy. Write its contraindications.

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

[1 × 15 = 15]

- a) What is principle of interferential therapy (I.F.T.)? Draw panel diagram of I.F.T. Describe different modes of applications of I.F.T.
- b) What are the characteristics of Faradic Type and Interrupted Direct currents. Draw panel diagram of a Diagnostic muscle Stimulator. Describe different types of electrodes used in low frequency currents.



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First B.P.T.H. (2012) Examination, Winter - 2022

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  - 7) Use a common answer book for all sections.

**SECTION "A" SAQ (50 Marks)**

1. Short answer question (**any five** out of six) : [5 × 3 = 15]
  - a) What is Earthing? Write its importance.
  - b) Functions of transformer.
  - c) Factors affecting skin resistance.
  - d) Write three merits and demerits each of hydrocollator packs.
  - e) Potentiometer.
  - f) Define latent heat of vaporization and write its value.
  
2. Short answer question (**any five** out of six) : [5 × 7 = 35]
  - a) Explain production of Short Wave Diathermy with circuit diagram.
  - b) Enumerate various home remedies and explain in detail any two.

- c) Describe different modes of heat transfer with an example of each.
- d) Define shock. What are the types of shock and what precautions are to be taken to prevent shock?
- e) Explain luminous & non-luminous IR generators.
- f) What is contrast bath? Write advantages and disadvantages of it. Explain in detail physiological effects of contrast bath.

**SECTION "B" LAQ (30 Marks)**

3. Long answer question (**any one** out of two) : [1 × 15 = 15]

- a) Describe the physiological and therapeutic effects of Whirlpool Bath. Write the method of application of whirlpool bath for treating an open wound. What are the precautions that need to be taken during application? [5 + 7 + 3]
- b) Describe hemodynamic, neuromuscular and metabolic effects of Cryotherapy. Explain therapeutic uses of Cryotherapy. Write contraindications to cold therapy. [6 + 6 + 3]

4. Long answer question (**any one** out of two) : [1 × 15 = 15]

- a) Write physical principles of Ultrasound. Explain production of Ultrasound with circuit diagram. Draw a neat labelled panel diagram Ultrasound machine. [3 + 8 + 4]
- b) Write physical principles of I.F.T. Describe production of I.F.T. and draw a neat labelled panel diagram of I.F.T. [3 + 7 + 5]



First B.P.T.H. (2012) Examination, (Phase - III) Winter - 2023  
FUNDAMENTALS OF ELECTRO THERAPY

Total Duration : Section A + B = 3 Hours

Total Marks : 80

**SECTION - A & SECTION - B**

- Instructions :**
- 1) Use **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) Define condensers. Write down its principles.
- b) Grid system at house.
- c) Write a note on electromagnetic induction.
- d) What are Eddy currents?
- e) Write down Lenz's law.
- f) What is magnetism? Write it's types.

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

[5×7=35]

- a) What is electromagnetic spectrum? write down laws governing it.
- b) Explain environmental currents and their role in Physiotherapy.
- c) Write down principle of IFT. Draw a panel diagram and production of IFT.
- d) Give the therapeutic effects of superficial heat.
- e) What is Contrast bath? Give its indications and contraindications.
- f) Write down indications and contraindications of cryotherapy.

SECTION "B" LAQ (30 Marks)

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

[1×15=15]

- a) What are Faradic Currents? write down different types of faradic currents with waveforms. Write down its uses.
- b) Write down production and circuit diagram of Short Wave Diathermy.

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

[1×15=15]

a) Write down principle of Ultra Sound. Explain its production with panel diagram.

~~x/y~~ What is beat frequency? Write the principle and production of IFT. Explain the IFT machine with panel diagram.

(b) write construction of Luminous & Non-luminous Irrigenerator. Add note on short & long Ir

