

BACHELOR OF PHYSIOTHERAPY (BPT)
SEMESTER -IV EXAMINATION, JUNE-2026

(BPT403) ELECTROTHERAPY

[Time allotted: Three Hours]

[Max Marks: 100]

Note: Read all the instructions carefully

Answer all questions in serial order. Draw suitable diagrams wherever necessary

Q. 1. Objective type questions: (Attempt All)

(10 x 02 = 20)

(Very short/ short answer/ MCQ/ One liners/ Fill in the blanks/ True/False)

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| <p>a. What is the primary purpose of using Interferential Current (IFC) therapy in electrotherapy?</p> <ol style="list-style-type: none"> i. Pain relief ii. Muscle strengthening iii. Wound healing iv. Increased circulation <p>b. In electrotherapy, what does the term "biphasic current" refer to?</p> <ol style="list-style-type: none"> i. Current that alternates between positive and negative phases ii. Current that has two different frequencies iii. Current that is applied in a single phase only iv. Current that involves two different types of electrodes <p>c. Which modality is used to promote tissue repair and reduce inflammation by applying a continuous, low-frequency current?</p> <ol style="list-style-type: none"> i. High-Voltage Pulsed Current (HVPC) ii. Microcurrent Therapy iii. Russian Stimulation iv. Galvanic Current <p>d. What is the typical frequency range used in Short Wave Diathermy treatments?</p> <ol style="list-style-type: none"> i. 100 kHz to 1 MHz ii. 1 MHz to 10 MHz iii. 10 MHz to 100 MHz iv. 100 MHz to 1 GHz <p>e. What is the primary therapeutic effect of Faradic current?</p> <ol style="list-style-type: none"> i. Deep tissue heating ii. Muscle stimulation and toning iii. Pain relief iv. Skin hydration | <p>f. Which type of current is characterized by its use of direct current (DC) and is commonly used for iontophoresis?</p> <ol style="list-style-type: none"> i. Faradic current ii. Galvanic current iii. Radiofrequency current iv. Pulsed current <p>g. Which of the following conditions can be diagnosed using NCV testing?</p> <ol style="list-style-type: none"> i. Osteoarthritis ii. Peripheral neuropathy iii. Tendonitis iv. Muscle strain <p>h. What does the term "motor unit action potential" (MUAP) refer to in an EMG?</p> <ol style="list-style-type: none"> i. The electrical activity of a single muscle fiber ii. The electrical response of a motor neuron iii. The electrical activity generated by a single motor unit iv. The average electrical signal from multiple muscles <p>i. What is an action potential?</p> <ol style="list-style-type: none"> i. A sustained contraction of muscle fibers ii. A sudden change in electrical charge across a cell membrane iii. The passive diffusion of ions across a membrane iv. The gradual buildup of neurotransmitters at a synapse <p>j. What is the primary therapeutic effect of low-level laser therapy (LLLT)?</p> <ol style="list-style-type: none"> i. Heating tissues to reduce pain ii. Increasing blood flow and reducing inflammation iii. Cutting through tissues for surgical purposes iv. Generating high-intensity light for imaging |
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Q. 2. Short notes/ Short answer type questions (Attempt any Five)

(05 x 04 = 20)

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| <p>a. Difference between iontophoresis and phonophoresis.</p> <p>b. List the commonly used drugs for pain, hyperhidrosis, and wound healing in iontophoresis.</p> <p>c. Define resting membrane potential and motor unit.</p> <p>d. Enlist the uses of PEME in clinical practice.</p> <p>e. Role of Biofeedback in Physiotherapy.</p> <p>f. FG test with its interpretations.</p> <p>g. What are the principles of Wax Therapy application?</p> | <p align="right">(CO5/PO8/PO9)</p> <p align="right">(CO4/PO2)</p> <p align="right">(CO2/PO5)</p> <p align="right">(CO3/PO2)</p> <p align="right">(CO2/PO8)</p> <p align="right">(CO2/PO5/PO8)</p> <p align="right">(CO3/PO4)</p> |
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Q. 3. Structured questions (Attempt any Three)

(03 x 10 = 30)

- a. (i) What is moist heat therapy and its significance? (CO3/PO2/PO5)
(ii) Therapeutic uses of the Moist heat therapy. (CO3/ PO4/PO5)
(iii) Indications and Contraindications of moist heat therapy. (CO4/PO5)
- b. (i) Explain Fluidotherapy along with its construction. (CO4)
(ii) Difference between contrast bath and fluidotherapy. (CO5/PO8)
(iii) Indications and contraindications of Fluidotherapy. (CO4/PO5)
- c. (i) Difference between sinusoidal current and diadynamic current. (CO5?PO8)
(ii) Write in detail about HVPGS with its parameters. (CO5/PO8)
(iii) What is the difference between micro-current and macro-current? (CO5/PO8)
- d. (i) Define Pain. (CO1/PO5)
(ii) Pain Gate Theory. (CO3/PO1/PO4)
(iii) Indications and contraindications of TENS. (CO4/PO5)

Q. 4. Long Answer/ Essay type questions (Attempt any Two)

(02 x 15 = 30)

- a. (i) Describe in detail any one medium frequency current along with its dosage parameters. (CO3/PO5)
(ii) Mention the indications and contraindications of the same. (CO4/PO5)
- b. (i) Enlist various electrodiagnostic tests. (CO2/PO8)
(ii) Co-relate with clinical findings and discuss its interpretations accordingly. (CO2/CO3/PO5)
- c. (i) Classify the types of current based on frequency and categorize various modalities accordingly. (CO3/PO1)
(ii) Elaborate in detail the Ultrasound therapy with circuit diagram. (CO3/CO5/PO4)