REV-01
BPT/121/40/45

2025/06

SET C

BACHELOR OF PHYSIOTHERAPY
SECOND SEMESTER
ELECTROTHERAPY - I
BPT – 204

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 min. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. What is the main purpose of contrast bath therapy?
   a. To relax the muscles only
   b. To stimulate circulation and reduce edema
   c. To reduce inflammation only
   d. To prevent infection
2. The recommended treatment ratio of hot to cold immersion in contrast bath is:
   a. 1:1
   b. 3:1
   c. 5:1
   d. 2:2
3. Which of the following modalities provides moist heat?
   a. Infrared lamp
   b. Heating pad
   c. UV therapy
   d. Hydrocollator pack
4. Which of the following is NOT an indication for cryotherapy?
   a. Acute sprain
   b. Muscle spasm
   c. Chronic arthritis
   d. Impaired circulation
5. In a healthy muscle at rest, EMG activity should be:
   a. High-frequency bursts
   b. Silent or minimal
   c. Continuous waves
   d. Random large spikes
6. What is the standard time for applying moist heat using hot packs?
   a. 5–10 minutes
   b. 10–15 minutes
   c. 15–20 minutes
   d. 30–40 minutes
7. Which of the following is a contraindication for fluidotherapy?
   a. Post-fracture stiffness
   b. Dry skin
   c. Tendonitis
   d. Open wounds
8. The recommended application time for an ice pack is typically:
   a. 2–3 minutes
   b. 5–7 minutes
   c. 10–15 minutes
   d. 30–40 minutes
9. Fluidotherapy is especially useful in treating:
   a. Hand injuries
   b. Muscle tears
   c. Acute inflammation
   d. Open wounds

10. Sinusoidal currents are most commonly used in electrotherapy for:
    a. Muscle strengthening and pain relief
    b. Wound healing
    c. Bone growth stimulation
    d. Inflammation reduction

11. In electrotherapy, didynamic currents are often used for:
    a. Continuous deep tissue stimulation
    b. Pain relief and muscle re-education
    c. Improving blood circulation
    d. Increasing tissue temperature

12. What is the typical intensity range of a microcurrent used in electrotherapy?
    a. 1–10 mA
    b. 100–500 mA
    c. Less than 1 mA
    d. 50–100 mA

13. Macrocurrents are typically used to achieve which of the following effects?
    a. Sub-sensory nerve stimulation
    b. DNA replication
    c. Muscle contraction and pain relief
    d. Hormonal regulation

14. Which of the following is a contraindication for the use of didynamic currents?
    a. Open wounds
    b. Osteoarthritis
    c. Chronic muscle strain
    d. Subacute inflammation

15. Low-frequency TENS is typically associated with:
    a. Superficial heating
    b. Enkephalin release
    c. Vasodilation
    d. Endorphin release

16. Which of the following best describes the physiological effect of microcurrent therapy?
    a. Heating of tissues
    b. Strong muscle contraction
    c. Cellular repair and ATP production
    d. Sensory nerve blockade

17. What is the primary indication for paraffin wax therapy?
    a. Acute inflammation
    b. Open wounds
    c. Chronic joint stiffness
    d. Deep muscle spasm

18. What is the primary mechanism of pain relief in high-frequency TENS?
    a. Endorphin release
    b. Vasoconstriction
    c. Gate control theory
    d. Muscle fatigue

19. Which statement is TRUE regarding microcurrent therapy?
    a. It is always felt by the patient
    b. It is effective in triggering visible muscle contractions
    c. It mimics the body's natural electrical currents
    d. It causes thermal effects in deep tissues

20. In didynamic currents, which of the following waveforms is used?
    a. Sinusoidal waveform
    b. Rectangular waveform
    c. Interrupted or modulated current
    d. Triangular waveform

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Descriptive

Time : 2 hrs. 30 min. **Marks : 50**

[Answer question no.1 & any four (4) from the rest]

1. Evaluate the mechanisms of action, clinical applications, and limitations of Transcutaneous Electrical Nerve Stimulation (TENS) in pain management. **10**

2. Describe the principles of iontophoresisand its clinical applications in treating musculoskeletal pain and inflammation. **10**

3. Describe faradic and galvanic currents in detail. Mention their usage on pain with examples. **10**

4. What is the FG test? Write in detail about their usage and limitations. **10**

5. Write the differences between a contrast bath and a whirlpool bath. Mention two conditions where you can use them. **10**

6. Elaborate on EMG. Write its advantages and disadvantages. **10**

7. Write about the principles, therapeutic and physiological effects of Cryotherapy. **10**

8. Describe the role of biofeedback in physiotherapy with a proper example. **10**

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