REV-01
BPT/62/31/36

2023/06

SET A

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. Which of them is a Neurological Disorder that is expressed muscularly?
   a. Paralysis
   b. Parkinson's
   c. Dementia
   d. Alzheimer's

2. Which of the following is more accurate for measuring EMG?
   a. Surface Electrode
   b. Needle Electrode
   c. Pre gelled Electrode
   d. Scalp Electrode

3. The contraction of the skeletal muscles results in generation of action potential in individual muscle fibers. This record is called as:
   a. ECG
   b. EMG
   c. EEG
   d. NCV

4. SD Curve can:
   a. Distinguish between Innervation and Denervation
   b. Distinguish between Innervation and Denervation but can't Quantify state of Innervation.
   c. Distinguish Between Innervated and Denervated and Quantify state of Innervation
   d. None of the above

5. TENS is contraindicated in the region of:
   a. Cardiac Pacemaker
   b. Carotid Sinus
   c. Hearing Aids
   d. All of the above

6. Conduction has the following features:
   a. The greater the temp gradient between skin and cooling source, the greater will be resulting tissue temp change.
   b. Tissues with higher content have better thermal conductivity.
   c. Time of exposure is important when considering the ability of cold to lower temp of affected part.
   d. Extraction of heat upon contact with the skin.

7. Hemodynamic Effects can be seen in the following:
   a. Decreased joint blood flow
   b. Increase in blood Viscosity
   c. Cold induced Vasodilation after long time of temp reduction.
   d. None of the above

8. The therapeutic application of heat is known as:
   a. Heliotherapy
   b. Thermotherapy
   c. Cryotherapy
   d. Short wave Diathermy

9. What are actions called that we control?
   a. Voluntary Actions
   b. Involuntary Actions
   c. Biofeedback Actions
   d. Mindfulness Action

10. For iontophoresis the positively charged ions should be kept at
   a. Anode
   b. Cathode
   c. Any Electrode
   d. Both the Electrodes

11. Which of the following best describes direct current?
   a. Electric current that flows in only one direction
   b. Electric current that alternates its direction periodically
   c. Electric current that flows in both directions simultaneously
   d. Electric current that is constant in magnitude but varies in direction

12. Which of the following equations represents Ohm's law for direct current?
   a. V = IR
   b. P = IV
   c. I = VR
   d. R = VI

13. Which of the following is a characteristic of faradic current?
   a. Low voltage and high current
   b High voltage and low current
   c High voltage and high current
   d Low voltage and low current

14. Which of the following is a benefit of using faradic current in physical therapy?
   a. Accelerated wound healing
   b. Reduced risk of infection
   c. Improved mental focus and concentration
   d. Increased muscle strength and endurance

15. Galvanic current is commonly applied using
   a. Sound waves
   b. Electromagnetic waves
   c. Electromagnetic waves
   d. Direct contact electrodes

16. The standard frequency for alternating current (AC) in most countries is:
   a. 60 Hz
   b. 50 Hz
   c. 100 Hz
   d. 120 Hz

17. TENS stands for:
   a. Transient Electrical Nerve Stimulation
   b. Transcutaneous Electrical Nerve Stimulation
   c. Transcranial Electrical Nerve Stimulation
   d. Transdermal Electrical Nerve Stimulation

18. TENS therapy can be applied using different modes, including:
   a. Continuous mode
   b. Alternating mode
   c. Alternating mode
   d. All of the above

19. The gate control theory of pain was proposed by
    a. Ronald Melzack
    b. Patrick Wall
    c. Sigmund Freud
    d. Ivan Pavlov

20. The intensity of microcurrent is typically measured in
    a. Volts (V)
    b. Amperes (A)
    c. Watts (W)
    d. Microamps (μA)

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Descriptive

Time : 2 hrs. 30 min. Marks: 50

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

1. Explain the Principles of Hydrocollator along with Suitable Diagrams 10

2. Define TENS, Discuss the principles, and write different modes of application in TENS and clinical effectiveness of TENS in pain gate mechanism 10

3. Define faradic current, write about the physiological and therapeutic effect of faradic current in detail and also write about contraindications and dangers of faradic current 10

4. Write in detail about NMES and discuss the precautions and contraindications of NMES. 10

5. Write in detail about whirlpool bath with therapeutic use as well as indications and contraindication of whirlpool bath. 10

6. Write in detail about Paraffin Wax Therapy along with its principles and Methods of Application. Draw suitable Diagrams 10

7. Explain Cryotherapy in detail along with suitable diagrams 10

8. a. Physiological Effects of Heat.
   b. Modes of Heat Transfer 5+5=10

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