

**BACHELOR OF PHYSIOTHERAPY
SECOND SEMESTER (SPECIAL REPEAT)
ELECTROTHERAPY-I
BPT- 204**

(Use separate answer scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

[PART-A: Objective]

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1 × 20 = 20

- After the fall of action potential, the nerve will return to resting potential which is the
 - Influx of Na⁺, efflux of K⁺ ions
 - Influx of K⁺, efflux of Na⁺ ions
 - Influx of both Na⁺ & K⁺ ions
 - Efflux of both Na⁺ & K⁺ ions
- The receptor that carry pain stimuli is
 - Pacinian corpuscle
 - Krause's corpuscle
 - Ruffini's end-organ
 - Free nerve ending
- Interrupted DC stimulation of denervated muscle produces
 - Sluggish contraction
 - Tetanic contraction
 - Brisk contraction
 - No contraction
- The afferent fibre(s) that carry pain sensation is (are)
 - A delta
 - A alpha and A delta
 - A delta and C fibre
 - None of the above
- Whirlpool bath is
 - Effects of warm temperature with the mechanical effects of the water
 - Effects of both hot as well as cold bath together
 - Effects of cold temperature with the mechanical effects of the water
 - Effects of warm temperature with cellulose particles
- Where, does the second order neuron begins and end?
 - Begins in the spinal cord, ends in the somatosensory cortex
 - Begins in the spinal cord, ends in the thalamus
 - Begins in the skin, ends in the spinal cord
 - Begins in the skin, ends in the thalamus
- H reflex is used for diagnosis
 - Radiculopathy and central neuropathy
 - Myelopathy and radiculopathy
 - Radiculopathy and peripheral neuropathy
 - Myelopathy and peripheral neuropathy
- The type of nociceptor that detects mainly sharp pricking pain is
 - Mechanical nociceptor
 - Mechano-thermal nociceptor
 - Chemical nociceptor
 - Polymodal nociceptor

9. F wave was first described in
 - a. The small muscles of the hand
 - b. The small muscles of the foot
 - c. The small muscles of the face
 - d. None of the above
10. The most common pulse width setting for TENS is
 - a. 100 to 500 μ s
 - b. 100 to 150 μ s
 - c. 100 and 500 μ s
 - d. 100 and 150 μ s
11. Surging is mainly used in
 - a. Sinusoidal current
 - b. Diadynamic current
 - c. Galvanic current
 - d. Faradic current
12. Lewis Hunting response is
 - a. Alternate phases of vasodilatation and vasoconstriction
 - b. Alternate phases of vasoconstriction and vasodilatation
 - c. Phase of vasoconstriction
 - d. Phase of vasodilatation
13. The current intensity in iontophoresis is
 - a. 2 to 12 mA
 - b. 5 to 15 mA
 - c. 5 to 12 mA
 - d. 2 to 15 mA
14. Tissue impedance is
 - a. The resistance offered by the skin to the electrical stimulation
 - b. The assistance offered by the skin to the electrical stimulation
 - c. The resistance offered by the skin due to the surface impurities
 - d. None of the above
15. Which is an absolute contraindication of galvanization?
 - a. Neuralgia
 - b. Myalgia
 - c. Altered sensation
 - d. Radicular syndrome
16. FES is used in wrist drop to assist which muscles
 - a. Wrist extensors
 - b. Wrist flexors
 - c. Thenar muscles
 - d. Hypothenar muscles
17. The lateral spinothalamic tract mainly carries
 - a. Vibration and proprioception
 - b. Pain and temperature
 - c. Light touch and pressure
 - d. Crude touch
18. The indications for TENS are
 - a. Chronic pain syndrome
 - b. Post-operative pain
 - c. Trigeminal neuralgia
 - d. All of the above
19. Which device allow electrons to flow in one direction and work by using heat?
 - a. Conductor
 - b. Transformer
 - c. Transistor
 - d. Diode valve
20. A fuse consists of a short length of wire of
 - a. High melting point
 - b. Low melting point
 - c. High resistance
 - d. None of the above

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[PART-B : Descriptive]

Time : 2 hr. 40 min.

Marks : 50

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

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| 1. a) Write a short note on wax bath therapy. | 10 |
| b) Application of iontophoresis for hyperhidrosis | |
| 2. a) Moist heat therapy. | 10 |
| b) What is TENS? Write a note on conventional TENS. | |
| 3. a) Parameters and uses of HVPGS. | 10 |
| b) FG test | |
| 4. a) Rheobase and Chronaxie. | 10 |
| b) Physiological effects of direct current. | |
| 5. a) Faradic footbath | 10 |
| b) Propagation of action potential in a nerve. | |
| 6. Describe Strength Duration Curve in detail and its interpretation in nerve lesions. | 10 |
| 7. a) Physiological effects of cryotherapy | 10 |
| b) Write a short note on NCV | |
| 8. Define low frequency current. Discuss in detail about the technique of application of faradic current | 10 |

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