

## Course: BACHELOR OF PHYSIOTHERAPY

1<sup>st</sup> Semester Examination: 2025

SUBJECT NAME: Electrotherapy-1 [23ABP102]

Q. CODE: A270

Max Time: 3 Hours

Max Marks: 80

All Questions are Compulsory. Illustrate answer with diagrams wherever relevant/required

The figures in the right-hand margin indicate marks.

- Q1 Long Answer Question (Answer any one out of two)** (1 X 15 marks)
- Explain electromagnetic induction, principles and applications in physiotherapy.
  - Describe the characteristics of muscle stimulating currents. Write about their physiological and therapeutic effects on innervated and denervated muscles.
- Q2 Long Answer Question (Answer any one out of two)** (1 X 15 marks)
- Describe principles and working of capacitors(condensers) and its applications.
  - Describe electric shock and the prevention of accidents in electrotherapy.
- Q3 Long Answer Question (Answer any one out of two)** (1 X 15 marks)
- What is rectification of current. Also, describe a metal oxide rectifier.
  - Describe the electrophysiology of nerves in context to electrical stimulation.
- Q4 Short Answer Questions (Focused) (Answer any two out of three)** (2 X 5 marks)
- Describe characteristics and principles of high-voltage pulsed galvanic stimulation.
  - Describe Maxwell's Cork and Screw rule.
  - Define semiconductor diodes and principles of working briefly.
- Q5 Short Answer Questions (Applied) (Answer any two out of three)** (2 X 5 marks)
- Define fluidotherapy, its effects and principles.
  - What is moving coil milliammeter and write about its applications.
  - Define iontophoresis and enumerate the contraindications for its application.
- Q6 Short Answer Case Based Question (Answer any two out of three)** (2 X 5 marks)
- Enlist the physiological and therapeutic effects of moist heat
  - Describe the atomic structure and properties relevant to electrotherapy
  - Explain all-or-none response for a nerve impulse.
- Q7 Objective Type (Selection / Supplied)** (5 X 1 marks)
- What is an ion?
  - Define direct current.
  - Describe the relationship of pulse length of currents to impedance of the skin .
  - Describe Joule's law.
  - What is meant by pulse frequency. Give an example.