

Course: BACHELOR OF PHYSIOTHERAPY

1st 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)

- a) Explain electromagnetic induction, principles and applications in physiotherapy.
- b) 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)

- a) Describe principles and working of capacitors(condensers) and its applications.
- b) Describe electric shock and the prevention of accidents in electrotherapy.

Q3 Long Answer Question (Answer any one out of two) (1 X 15 marks)

- a) What is rectification of current. Also, describe a metal oxide rectifier.
- b) 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)

- a) Describe characteristics and principles of high-voltage pulsed galvanic stimulation.
- b) Describe Maxwell's Cork and Screw rule.
- c) Define semiconductor diodes and principles of working briefly.

Q5 Short Answer Questions (Applied) (Answer any two out of three) (2 X 5 marks)

- a) Define fluidotherapy, its effects and principles.
- b) What is moving coil milliammeter and write about its applications.
- c) 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)

- a) Enlist the physiological and therapeutic effects of moist heat
- b) Describe the atomic structure and properties relevant to electrotherapy
- c) Explain all-or-none response for a nerve impulse.

Q7 Objective Type (Selection / Supplied) (5 X 1 marks)

- a) What is an ion?
- b) Define direct current.
- c) Describe the relationship of pulse length of currents to impedance of the skin .
- d) Describe Joule's law.
- e) What is meant by pulse frequency. Give an example.