

PAPER CODE: AHS17010

KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES

TELANGANA STATE, WARANGAL – 506 002

B.Sc. (Allied Health Sciences), SECOND YEAR DEGREE SUPPLEMENTARY EXAMINATIONS:

OCTOBER, 2025

NEURO SCIENCE TECHNOLOGY

PAPER I

ELECTRONICS & INSTRUMENTATION

Time: 3 Hours

Max Marks: 80

Note: Draw diagrams whenever necessary with Black Ball point pen /HB pencil /any dark Color pencil.

Write essay on any TWO of the following questions:

2 X 10 = 20

1. Explain the working of EMG system with neat block diagram.
2. Discuss the working of half wave rectifier with neat sketch.
3. Describe the various symbols, color coding, control and their meaning pertaining to medical equipment.

Write a short note on any FIVE of the following:

5 X 6 = 30

4. What are Bio electric potentials? Give some examples of bio electric potentials.
5. Explain V-I characteristics of PN junction diode with neat sketch.
6. List the types of noise and technique for noise removal.
7. Explain the voltage -RLC circuit.
8. What are the do's and don'ts for users of medical equipment?
9. Explain the types of micro electrodes and their associated equivalent circuits.

Write briefly on the following:

10 X 3 = 30

10. What is Power factor? State the importance of it.
11. Write briefly on international standards and certification of medical equipment.
12. Classification of equipment based on electrical safety.
13. What is meant by Sodium pump?
14. How do you ensure electrical safety while performing EEG?
15. What is the Bandwidth in EEG?
16. What is Sampling rate in EEG?
17. What is Differential amplification?
18. Transformers in EEG analysis.
19. How do you prepare a patient for EEG?
