Register No.:

3181

October 2024

Time – Three hours
(Maximum Marks: 100)

[N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. What is action potential?
2. State the principle of operation of sphygmomanometer.
3. What is Augmented lead system?
4. Define conduction velocity.
5. Differentiate between R wave triggered and ventricular inhibited pace maker.
6. What are the processes involved in dialysis?
7. What is let go current?
8. What is meant by micro and macro shocks?
9. List the applications of ultrasonic imaging in medical field.
10. Write notes on X-ray imaging.

[Turn over.....

PART – B

11. (a) Explain the various types of skin surface electrodes and needle electrodes for bio potential measurement.

(Or)

(b) Explain the working of electromagnetic blood flow meter.

12. (a) Explain the working of EEG recorder with neat block diagram.

(Or)

(b) Explain the working of basic audiometer. Also differentiate between air conduction and bone conduction.

13. (a) Describe the working of Heart-Lung machine with a neat sketch.

(Or)

(b) Explain the working of modern ventilator with a neat block diagram.

14. (a) (i) Explain typical radio telemetry with single channel subcarrier used in biotelemetry system. (10)

(ii) What are the applications of bio telemetry? (4)

(Or)

(b) (i) What is Leakage current? What are the lethal effects of it? (7)

(ii) Explain the working of Ground Fault Circuit Interrupter (GFI). (7)

15. (a) What is meant by Angiography? Explain its working principle and state its applications.

(Or)

(b) Explain the working of various sub systems of MRI scanner.
