

Register No.:

**925**

**April 2023**

*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 are bio-electric potentials?
2. What do you mean by Spiro meter?
3. What are the clinical uses of EEG.
4. Write about the measurement of conduction velocity using EMG?
5. What is the head for pace maker?
6. What do you mean by dialysis? What is the need for it?
7. What are the components of Radio telemetry system?
8. What are the preventive measures taken to prevent shock hazards?
9. What are the properties of Laser beam?
10. Write about ultrasonic transducers.

**PART – B**

11. (a) Explain the Sphygmomanometer method of measuring Blood Pressure. What is the value of Systolic and Diastolic pressure for a normal adult?

(Or)

- (b) (i) What do you mean by Heart rate? (2)  
What are the methods of measuring Heart rate? (3)  
What is the value of Heart rate for an Adult and an infant?(2)
- (ii) Explain the working of Heart rate monitor.(7)

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12. (a) With neat diagrams explain how ECG can be recorded using 12 lead system.

(Or)

- (b) (i) What do you mean by ERG? Draw the structure of ERG wave. (7)  
(ii) Explain with neat block diagram, how ERG can be measured using ERG Recorder?(7)

13. (a) What are the drawbacks of AC defibrillator? Explain the working of DC defibrillator. How much of energy is applied in DC defibrillators?

(Or)

- (b) What do you mean by Ventilator? Explain the block diagram of Modern ventilator.

14. (a) (i) What do you mean by Telemedicine? (2)  
(ii) Explain the various sub systems of Telemedicine system. (12)

(Or)

- (b) (i) What are the physiological effects in electro surgical units?(4)  
(ii) Explain the safety aspects in burns and explosion hazards.(10)

15. (a) (i) What do you mean by Tomography? (2)  
(ii) Explain the working of various sub systems of CT scanner. (12)

(Or)

- (b) (i) What do you mean by MRI? (2)  
What is the superiority of MRI scan over CT scan? (2)  
(ii) Explain the working of various sub systems of MRI Scanner.(10)