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**GROUP – B****(Short Answer Type Questions)**Answer any *three* of the following questions.

3 × 5 = 15




2. What are the main electrolytes present in biological fluid ? Briefly explain a procedure for the determination of conduction of biological fluid. 1 + 4
3. Briefly discuss the bipolar limb-lead system for ECG measurement. What are the parameters used for the diagnosis of ECG signal ? 3 + 2
4. What are the main properties of ultrasound ? What are the specifications of medical (diagnostics) ultrasound ? 4 + 1
5. Explain the medical significance of α and γ waves in EEG. 5
6. Write short notes on “application of biometric in modern technology”. 5

GROUP – C**(Long Answer Type Questions)**Answer any *three* of the following questions.

3 × 15 = 45

7. Define radioactivity with the help of law of radioactive decay. How can you detect and measure the intensity of radioactivity ? What is electromagnetic radiation ? What is the photoelectric process and significance in radiology ? 5 + 5 + 1 + 4
8. Describe the technique for determination of EMF of a single biological cell. What do you mean by impedance of biological system ? Explain any two methods used to measure the impedance of body. 4 + 3 + 8
9. What do you mean by macroshock and microshock in the physiological measurement ? What is “Let go current” ? Briefly discuss the magnetic properties of biological substances. Give brief outlines of merits and demerits of magnetic field and radio waves in the biological system. 4 + 1 + 4 + 6



10. What is the electrical activity of human brain ? Briefly discuss about the recording electrodes of EEG signals. Do you think that the electroencephalogram is subject to frequency discrimination ? Explain. What is electroretinography ?  2 + 6 + 4 + 3
11. How can you measure the concentration (solute) of a solution by using Beer-Lambert law ? Give a schematic diagram of the instrumental procedure. What are the main electrolytes present in biological fluid ? Briefly discuss a procedure for measuring the electrical conductance of biological fluid. 3 + 5 + 1 + 6
12. What do you understand by vector cardiography ? With the help of vector cardiography explain the flow of electrical impulse in the heart. What are the different types of electrocardiographic leads ? With the help of a suitable diagram, explain the position of the leads. 3 + 5 + 3 + 4

END