Diagnostic and Therapeutic Equipment
IA 1 – Question Bank

2 marks

1. When do we need Holter Monitor?
2. What is ventricular fibrillation?
3. Estimate the significance of Einthoven's triangle explain the lead system of ECG measurement?
4. The average period of ECG waveform for 10 second is determined by what equation during detection of ventricular fibrillation
5. Why EEG recordings are made over a much longer interval of time unlike ECG?
6. Which leads make up the Einthoven triangle?
7. Generalize which factors is affect EMG signal quality?
8. Interpret what type of electrodes used for EMG?
9. Enlist the Clinical Significance and application of EMG
10. Identify the type of defibrillator preferred in cardiac emergencies.
11. Interpret the need for using a cardiac pacemaker.
12. When External stimulus is applied to a sensory area of the brain how does it respond and how is it detected
13. Mention the specification with the ranges of the defibrillators.
14. What is Holter recording?
15. Define AED.
16. Define nerve stimulator.
17. List the applications of TENS.
18. Give the frequency range of EMG waveform
19. When extraneous random magnetic fields are affecting an implantable pacemaker what method would you suggest to overcome the effect?
20. Calculate the energy stored in a 16 uF capacitance when the capacitor is charged to 5000 Vdc.

    Formula $U=(1/2)CV^2= 200J$
21. Write a short note on evoked potential
22. Identify the electrode position of recoding evoked potential for given auditory stimulus
23. Identify the electrode position of recoding evoked potential for given Visual stimulus
24. Identify the electrode position of recoding evoked potential for given somatosenory stimulus
25. Define ERB's Point
26. State the application of Biotelemetry
27. State the application of Brain stimulation treatment.

Part B

1. Explain how the principle of biotelemetry deployed in ECG and EEG transmission
2. Explain the Wilson central terminal 12 lead system of ECG measurement? And give the suitable expression.
3. What are the 4 landmarks of the skull that are used for the 10 - 20 electrode placement and explain?
4. Explain in detail about single channel telemetry
5. Discussion evoked potential – Visual, Auditory and Somatosensory
6. Why do we require a synchronization function in defibrillator?
7. Distinguish between internal and external pacemaker.
8. Analyze the working principle of ventricular synchronous pacemaker or Examine about a cardioverter with the help of block diagram.
9. Review the working principle synchronized DC defibrillator.

10. Draw the different waveforms used in Medical stimulators
11. What is nerve conduction velocity? State the change in nerve conduction velocity when myelin sheath ruptures
12. Explain in detail about nerve stimulator and its types
13. Illustrate the concept of Brain stimulation treatment
14. Illustrate the concept of EMG Biofeedback Instrumentation