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BOARD DIPLOMA EXAMINATION
MARCH/APRIL - 2019
DIPLOMA IN APPLIED ELECTRONICS AND INSTRUMENTATION
BIOMEDICAL INSTRUMENTATION
FIFTH SEMESTER EXAMINATION

Time: 3 Hours **Total Marks: 80**

PART - A (3m x 10 = 30m)

Note 1:Answer all questions and each question carries 3 marks

2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. **Define action potential**
2. Define Electrode
3. State the importance of electrocardiogram
4. **List any three differences between unipolar leads and bioploar leads.**
5. List any three types of blood flow meters
6. List any three types of indirect blood pressure measurements
7. Compare the internal pacemakers over external pacemakers in any three aspects
8. Draw the circuit diagram of capacitive discharge DC defibrillators
9. **State the need for grid in X-ray machine.**
10. Define micro and macro shock

PART - B (10m x 5 = 50m)

Note 1:Answer any five questions and each carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. Explain the bio-electrical potentials associated with muscle activity
12. Explain the arrangement of electrodes while monitoring EEG
13. (a) Draw the block diagram set up for EMG recording **6M**
    (b) List any four applications of EMG **4M**
14. Explain indirect blood pressure measurement using Sphygmomanometer and Stethoscope
15. Explain the working of Ultrasonic blood flow meter based on Doppler type with diagram

16. **Explain the operation of ventricular synchronous demand pace maker with block diagram.**
17. Explain the working of C.A.T Scanner with block diagram
18. **Explain patient monitoring in ICU and draw the system of arrangement.**

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