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**4709**

**BOARD DIPLOMA EXAMINATION, (C-14)**

**MARCH /APRIL-2019**

**DAEIE-SIXTH SEMESTER EXAMINATION**

**BIO - MEDICAL INSTRUMENTATION**

Time: 3 Hours

Max. Marks: 80

**PART-A**

**10X3=30M**

**Instructions :** 1) Answer **all** questions.  
2) Each question carries **Three** marks.  
3) Answer should be brief and straight to the point and shall not exceed simple sentence

- 1) Define Action potential.
- 2) List any three effects of electromagnetic radiations in the human body.
- 3) Classify the EEG frequency bands.
- 4) Identify the frequency and amplitude of EMG.
- 5) State the merits and demerits of indirect blood pressure measurement.
- 6) Draw the block diagram of LASER Doppler blood flow meter.
- 7) Classify the different types of pacemakers based on the modes of operation.
- 8) State the need of defibrillators.
- 9) List any three applications of X-Ray imaging.
- 10) List any three limitations of X-Ray imaging.

*[Contd...]*

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**PART-B**

**5X10=50**

**Instructions:** 1) Answer any **five** questions.

2) Each question carries ten marks.

3) The answer should be comprehensive and the criteria for valuation is content but not the length of the answer.

- 11) Explain the electrical activity of heart and significance of ECG wave form.
- 12) Explain the working principle of an EEG machine with block diagram.
- 13) a) Draw the electro cardio gram indicate its amplitude, diration and state their Importance. 6M
- b) Compare unipolar and bipolar leads. 4M
- 14) Explain the direct blood pressure measurement with diagram.
- 15) Explain the working principle of ultra sonic blood flow meter based on transit Time with diagram.
- 16) Compare the advantages of implantable pacemakers over external Pace-makers.
- 17) a) Compare AC defibrillators and DC defibrillators. 6M
- b) State the importance of dialysis. 4M
- 18) Explain the working principle of C.A.T Scanner with diagra.

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