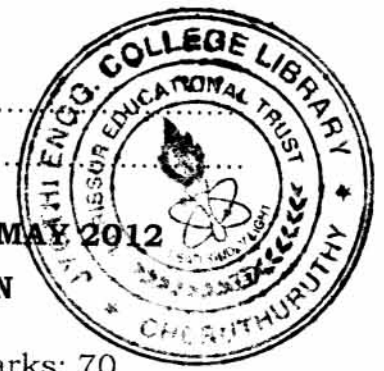


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Name : .....

Reg. No: .....



**SIXTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2012**  
**AI 09 603 BIO MEDICAL INSTRUMENTATION**

Time : 3 Hours

Max. Marks: 70

**PART - A (Answer all questions) (5 x 2 MARKS = 10 MARKS)**

1. Name the major physiological systems of the body.
2. What is mean by refractory period.
3. Distinguish between systolic and diastolic BP.
4. What do you mean by fibrillation
5. What is the principle of diathermy.

**PART - B (Answer any four questions) (4 x 5 marks = 20 marks)**

6. List and explain the components of a man instrument system.
7. What is mean by resting membrane potential.
8. Draw and explain a typical ECG waveform.
9. With schematic explain the structure of a neuron.
10. With block diagram explain the working of EMG machine.
11. List any four properties of X-rays.

**PART - C (Answer either section (A) or Section (B) from each module.**  
**(4 x 10 marks = 40 marks)**

**Module I**

- 12 (a) With schematic explain  
(a) Surface electrode                      (b) Needle electrode

**OR**

- 12(b) Explain any two types of transducers used in bio-medical field.

**Module II**

- 13 (a) Explain the indirect method of blood pressure measurement.

**OR**

- 13(b) With block schematic explain the working of ultrasonic blood flow meter.

**Module III**

- 14(a) Explain the working of a cardiac pacemaker with the help of block diagram.

**OR**

- 14(b) With schematic describe the operation of a Heart - Lung machine.

**Module IV**

- 15(a) With block diagram explain the working of magnetic resonance imaging system

**OR**

- 15(b) With schematic explain the principle of angiography.

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