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Name.....

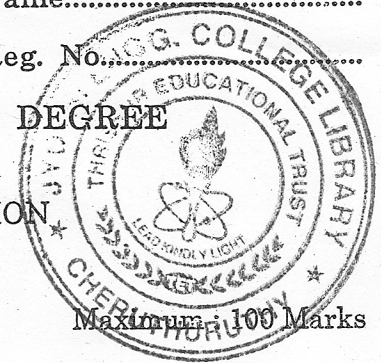
Reg. No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, JUNE 2011

AI 04 603—BIOMEDICAL INSTRUMENTATION

(2004 admissions)

Time : Three Hours



*Answer all questions.*

1. (a) Define Gauge factor and figure of merit in strain gauge pressure transducer.  
(b) Define Biometrics.  
(c) How the interference from a power line effects the ECG recording ?  
(d) What are the various direct and indirect methods available for the measurement of blood pressure ?  
(e) Write short notes on spirometer and its application.  
(f) Write a short note on respiratory therapy equipment.  
(g) Write the principle of nuclear magnetic resonance imagine systems.  
(h) Write a short note on radiation therapy.  

(8 × 5 = 40 marks)
2. (a) Define action and resting potentials. Explain in detail the propagation of action potential.  

*Or*

(b) Explain in detail the various problems encountered in biomedical measurements.
3. (a) With neat diagram, explain in detail about photoelectric and capacitance plethysmographs.  

*Or*

(b) Explain in detail with neat sketch, the techniques involved in the measurement of blood flow.
4. (a) Explain briefly about external and internal pacemakers.  

*Or*

(b) Explain with neat sketch the physiology of respiratory system.
5. (a) Explain with neat sketches, the basic principle of ultrasonic imaging systems.  

*Or*

(b) Explain in detail about nuclear medicine system, with its advantages and disadvantages.  

(4 × 15 = 60 marks)