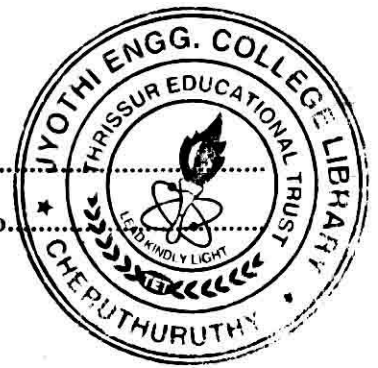


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(Pages 2)

Name.....

Reg. No.....



**SIXTH SEMESTER B.TECH. (ENGINEERING)  
DEGREE EXAMINATION, APRIL 2014**

(2009 Scheme)

EE/PTEE 09 L05—BIO-MEDICAL ENGINEERING

(Regular/Supplementary/Improvement)

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.*

1. Mention the role of a biomedical equipment technician ?
2. What is meant by Holter ECG recording ?
3. What are the advantages of wedge spirometer ?
4. Mention the EM wave properties of X-rays ?
5. List the applications of biotelemetry ?

(5 × 2 = 10 marks)

**Part B**

*Answer any four out of six questions.*

6. Draw and explain the equivalent circuit for biopotential-electrode interfaces.
7. Explain the correlation between ECG and blood pressure variation with suitable waveforms.
8. Explain the working of an ultrasonic blood flow meter.
9. Write short note on lung volume capacities ?
10. How can you quantify the EMG ?
11. How does MRI differ from Computed tomography ?

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.*

12. Explain the different components of man-instrument system with a suitable example.

*Or*

13. How does microelectrode find applications in biomedical field ?

**Turn over**

14. Explain the Dye dilution method for blood flow measurement.

*Or*

15. Give a detailed comparison between the photoelectric and impedance Plethysmographs ?

16. Explain various neuronal receptors from sensor point of view.

*Or*

17. (a) What are the different modes of Respirators ? (5 marks)

(b) How do you implement a temperature controller for infant incubator ? (5 marks)

18. Explain the conductivity method for the determination of hemoglobin concentration.

*Or*

19. (a) Draw and explain the six resistance scheme referred to electrical shock ? (5 marks)

(b) What do you mean by an isolated power distribution system ? (5 marks)

[4 × 10 = 40 marks]