

C 1130

(Pages : 2)

Name

Reg. No.



**SIXTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] ~~DIGREE~~  
EXAMINATION, APRIL 2016**

**EE/PTEE 09 L05—BIO-MEDICAL ENGINEERING**

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.*

1. Give the frequency spectrum of EEG.
2. How does EMI affect the pacemakers ?
3. What are the different types of spirometers ?
4. Mention the advantages of ultrasound transducers.
5. What is meant by let-go-current ?

(5 × 2 = 10 marks)

**Part B**

*Answer any four out of six questions.*

6. Briefly explain the functions of nervous system from control point of view.
7. Explain the catheterization method as referred to cardiovascular system.
8. Explain the oscillometric method for blood pressure measurement.
9. Write a short note on EMG measurement.
10. Draw and explain the working of DC defibrillator circuit.
11. Explain the basic features of computer tomography.

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.*

12. (a) What are the functions of a clinical engineer in medical field ? (5 marks)
- (b) Write short note on suction electrode and its applications. (5 marks)

*Or*

13. Draw and explain the electrical equivalent circuit of biopotential-electrode system.
14. Explain any *one* method to measure cardiac output.

*Or*

**Turn over**

15. Differentiate between various types of cardiac pacemakers.

16. Write short notes on :

(a) respiratory parameters.

(5 marks)

(b) Lithotripsy.

(5 marks)

*Or*

17. Explain the dialysis process with the help of block diagram.

18. Write short notes on :

(a) Colorimeter.

(7 marks)

(b) Medical applications of X-ray.

(3 marks)

*Or*

19. Explain the different methods for electrical accident prevention.

(4 × 10 = 40 marks)