

**BE/B.TECH DEGREE EXAMINATION, Nov/Dec 2011**  
**Electronics and communication engineering,**  
**VI semester**  
**EC 9351 – Medical Electronics**

40

Time : 3 hrs

Answer ALL the questions

Max:100 marks.

Part A – (10X2=20)

1. Define: Action potential.
2. Compare the ECG signal with PCG.
3. What is the principle of Colorimeter?
4. Which transducer is used for measuring the pulse rate?
5. Draw the circuit of DC Defibrillator and give its output specifications.
6. What is Cochlear implant?
7. What is FES?
8. What is Let-go current?
9. Which laser is used for cutting during the surgery?
10. List the parts of endoscopy.

PART – B (16X5=80)

11. (i) Draw the block diagram of Heart Lung Machine and explain the important components. (10)  
(ii) Explain the need for pacemaker and list the types of pacemaker. (6)
  12. (a) Discuss about the different types of Electrodes used for measuring the Bio Potential. (16)
- (OR)**
12. (b) Draw the block diagram of ECG machine and explain. (16)
13. (a) Explain the following
    - (i) pH measurement (8)
    - (ii) Blood cell counters (8)
- (OR)**
- 13 b) Explain any two methods of measuring the blood pressure using indirect methods. (16)
14. (a) (i) Explain the principle of ultrasonic diathermy. (8)  
(ii) Draw the different types of current waveform used in the medical stimulator and mention the application. (8)
- (OR)**
14. (b) Draw the block diagram of multi channel Bio Telemetry system and explain. (16)
15. (a) Write short notes on
    - (i) Thermography (8)
    - (ii) Surgical diathermy (8)
- (OR)**
15. (b) What are Lasers? Mention the different types of the Lasers with its characteristics and medical application. (16)