



**B.E. DEGREE END SEMESTER EXAMINATIONS, MAY 2013**

Electronics and Communication Engineering

Seventh semester-2008 Regulation

**EC 9351 – MEDICAL ELECTRONICS**

60

Time: 3 hr

Max. Marks: 100

Answer ALL Questions

**Part – A ( 10 x 2 = 20 Marks )**

1. Define Resting Potential and Action Potential.
2. Give the characteristics of Biosignals.
3. Mention any two applications of Electrophoresis.
4. Draw the various types of Defibrillator discharge waveforms.
5. What is Sensorineural Hearing Loss? Mention the type of hearing aid used for this deafness.
6. Differentiate between Peritoneal dialysis and Hemodialysis.
7. What type of modulation is preferred for transmission of Biosignals over long distances?
8. Define the terms Rheobase and Chronaxie.
9. Draw and label the various parts of an endoscope.
10. What are the various types of Electro surgery techniques commonly employed?

**Part – B ( 5 x 16 = 80 Marks )**

11. a) Explain the process of acquiring a thermogram. (10)
- b) Explain any one application of laser in medicine. (6)
12. a) Give a detailed description on Biopotential Electrodes and its types. (16)
- (OR)
12. b) Give short notes on the following:
  - i) Phonocardiograph – Microphone types, writing methods. (6)
  - ii) Electrooculography Measurement (6)
  - iii) Electroencephalogram Electrode placement (4)
13. a) Explain the working of any two clinical laboratory instruments. (16)
- (OR)
13. b) Give detailed notes on the following Indirect Blood Pressure Measurements:
  - i) Differential Auscultatory Method (8)

- ii) Ultrasonic Doppler Shift Method (8)
14. a) Explain the types of Pacemakers in detail. (16)
- (OR)
14. b) Explain the working of Cardiopulmonary Bypass Machine in detail. (16)
15. a) Give a detailed note on Shortwave Diathermy (16)
- (OR)
15. b) Write short notes on:
- i) Macroshock and Microshock Hazards (10)
- ii) Ground Fault Interrupter (6)