

R7

Code: R7420403

B.Tech IV Year II Semester (R07) Supplementary Examinations, March/April 2013

BIOMEDICAL INSTRUMENTATION

(Electronics and Communication Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions

All questions carry equal marks

- 1 (a) Discuss about static and dynamic characteristics of medical instruments.
(b) Discuss about various types of biosignals and their characteristics.
- 2 (a) What is resting potential? Discuss about generation and propagation of action potential.
(b) Discuss about conduction through nerve to neuro-muscular junction.
- 3 (a) Explain in detail about biochemical electrodes.
(b) List out and discuss about biopotential internal electrodes and give their applications.
- 4 (a) Explain about electrical conduction system of the heart with a neat diagram.
(b) Describe a cardiac cycle with a neat sketch.
- 5 (a) Give the interpretation of ECG waveform with respect to electromechanical activity of the heart.
(b) Discuss about Einthoven triangle-lead configurations.
- 6 (a) Discuss in detail about a defibrillator.
(b) Discuss about short wave diathermy.
- 7 (a) Explain about electrode placement for EEG and EMG recording.
(b) Give the interpretation of EMG and EEG waveforms.
- 8 Write short notes on the following:
 - (a) Pneumotachograph.
 - (b) Ventilators.
