

**Code: 9A10802**

B.Tech IV Year I Semester (R09) Regular &amp; Supplementary Examinations December 2015

**BIO-MEDICAL INSTRUMENTATION**  
(Electronics & Communication Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Explain the components of medical instrumentation system with a neat block diagram.  
(b) Discuss the problem encountered with measurements from human beings.
- 2 What is resting potential? Explain the generation and propagation of action potential in detail with the help of a neat sketch.
- 3 (a) Explain briefly about biochemical electrodes.  
(b) Write short notes on surface electrodes.
- 4 Discuss the relation between electrical and mechanical activities of the heart in detail with necessary diagrams.
- 5 (a) What is a pacemaker? Describe about internal pacemaker with a neat block diagram.  
(b) What is meant by Defibrillation? Explain any one type of Defibrillator.
- 6 Explain the placement of electrodes for FEG and EMG recording in detail.
- 7 (a) Explain the working of Pneumotachograph.  
(b) Explain the physiology of Respiratory system briefly.
- 8 (a) Discuss the hazards in operation rooms.  
(b) Discuss the safety measures implemented in biomedical instruments regarding patient safety.

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