

Code No: **R41048****R10****Set No. 1****IV B.Tech I Semester Supplementary Examinations, March – 2017****BIO-MEDICAL ENGINEERING****(Electronics and Communication Engineering)****Time: 3 hours****Max. Marks: 75**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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- 1 a) What are the sources of Bioelectric potential? Explain about resting and action potentials. [8]  
b) What is the communication network for human body? Explain. [7]
- 2 a) Define transducer. Explain about the Transducers for Biomedical Applications. [8]  
b) What are pulse sensors? Mention the applications of pulse sensors. [7]
- 3 a) Explain how blood flow can be measured using electromagnetic blood flow meter. [8]  
b) Why is the SA node called as natural pacemaker? [7]
- 4 a) Write short notes on            i). Tidal volume            ii). Residual volume  
   iii). Vital capacity            iv). Total lung capacity [8]  
b) Describe about the Physiology of the Respiratory System. [7]
- 5 a) Explain how the hospital is organized for patient-care monitoring? [8]  
b) In what way demand pacemaker is different from stand by pacemaker. [7]
- 6 a) What are the different types of medical instruments used in ophthalmology? Explain briefly. [8]  
b) Briefly explain about biomaterials. [7]
- 7 a) What is ultrasonic imaging? Explain in detail? [8]  
b) What are the applications of telemetry in patient care? [7]
- 8 a) What are the electrical safety measures of medical equipment? Explain. [8]  
b) Explain how the isolation of patient-connected parts is achieved while using a modern ECG machine. [7]