

Code No: **R41048****R10****Set No. 1****IV B.Tech I Semester Supplementary Examinations, October/November - 2017****BIO-MEDICAL ENGINEERING****(Electronics and Communication Engineering)****Time : 3 hours****Max. Marks: 75****Answer any Five Questions****All Questions carry equal marks**

- 1 a) Draw the block diagram of man-instrument system and explain each block. [8]
b) What are the different bioelectric potentials? Explain. [7]
- 2 a) What are the basic types of electrodes used to measure bioelectric events? Explain about biochemical transducers. [8]
b) Draw the diagram of PO₂ electrode and explain its operation. [7]
- 3 a) Explain the electrocardiogram in detail. [8]
b) Describe the operation of ultrasonic blood flow meter. [7]
- 4 a) Explain about ventilators and respirators. [8]
b) Explain in detail various respiratory therapy equipment. [7]
- 5 a) With a neat diagram explain about the Calibration and Repairability of Patient-Monitoring Equipment. [8]
b) Draw a typical DC defibrillator circuit and explain its operation. [7]
- 6 a) What is the use of Tonometer? Explain. [8]
b) Explain the working of ophthalmology instruments. [7]
- 7 a) Explain the process of simultaneously transmitting four channels of physiological data. [8]
b) Describe about the CAT Scan. [7]
- 8 a) What are the different methods of electrical accident prevention? [8]
b) Explain about the Isolated Power Distribution System. [7]