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04/12/2010

(REVISED COURSE)

(3 Hours)

GT-7593  
[Total Marks : 100]

- N.B: (1) Question No. 1 is **compulsory**.  
 (2) Attempt any **four** questions out of remaining **six** questions.  
 (3) Draw neat figures wherever necessary.  
 (4) Assume suitable data if necessary and state them clearly

1. (a) Explain the term pace maker. What are the different types of pace maker? 20  
 (b) Explain generation of action potential.  
 (c) Draw block diagram of phonocardiograph and explain briefly.  
 (d) What are the different types of transducer used for temperature measurement?
2. (a) Describe physiological effects of 50Hz current. 10  
 (b) Explain different types of Isolation technique used in medical devices. 10
3. (a) Describe different types of writing system used in medical instrument, and explain writing system used in ECG recording. 10  
 (b) Explain what is noise? What are the different types of noise and how it can be minimized. 10
4. (a) Explain term Bio-Potential, how bio-potential generated. 10  
 (b) Explain Isolation amplifier and advantage of using Isolation Amplifier. 10
5. (a) What is the frequency range of following system? 10  
 1. ECG 2. EMG 3. EEG 4. ERG  
 (b) Explain any one of them from the above how signal is picked up and displayed. 10
6. (a) What is Biofeedback? Explain with block diagram of EMG Biofeedback. 10  
 (b) Explain with block diagram for monitoring fetal heart rate. 10
7. Write short notes: 20  
 (a) Micro shocks and macro shocks.  
 (b) Cardiotocograph.  
 (c) Patient monitoring system.  
 (d) Arrhythmia

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