

2006 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY
IV B.TECH II SEMESTER DEGREE EXAMINATIONS
BIO MEDICAL INSTRUMENTATIONS
(ELECTRONICS COMMUNICATION ENGINEERING)

APRIL/MAY 2006

TIME : 3 HOUR
MARK : 80

Answer any FIVE Questions All Questions carry equal marks

1. (a) Draw the structure of a living cell of our body and explain its constituents.
(b) Discuss the different ways of transport of ions through the cell membrane.
2. (a) Explain about the non -electrical systems of the heart .
(b) What are the functions of SA node and AV node?
3. (a) What is a Transducer? Explain its importance in biomedical instrumentation?
(b) What is the necessity of signal conditioning and processing circuits in biomedical instrumentation?
4. (a) Describe the components of a typical EMG recording system.
(b) What are the technical differences between the recorders used for EMG and ECG?
5. (a) Give the types of ECG recorders. Discuss any two types of recorders in detail.
(b) What is the needs for intensive-care monitoring system? Discuss the basis and essential components present in the cardiac-care unit.
6. (a) Describe various types of EEG frequency responses and explain their significance.
(b) What is the difference between a normal and evoked response. [
7. (a) Explain the fibrillation and defibrillation in the heart and hence explain the need for defibrillation with neat circuit diagrams.
(b) Discuss the computer analysis of ECG.
8. (a) Describe the possibilities of occurrence of electrical accidents for a patient in a hospital.
(b) What are microshocks and macroshocks?

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